HITACHI

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SERVICE MANUAL

NTSC

DP55
Chassis

PA

No. 0209

51F710A/DP55
57F710A/DP55
65F710A/DP55

R/C: CLU-4351UG2

SERVICE MANUAL REVISION HISTORY INFORMATION

DATE	REVISON #	REASON
June , 05	SM00001	FIRST ISSUE OF MANUAL
Sept 19	FINAL	
Jan 25, 06		Font repair
10.18.2006	**CH 1**	Deleted step 2.f. which refers to an older style remote.
02.13.2007	**CH 2**	Revised Cut Off instructions.
05.03.2007	**CH 3**	Changed left directional remote cursor button to "Decrease"

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

PROJECTION COLOR TELEVISION

JUNE 2005 HHEA-MANUFACTURING DIVISION

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TO GO TO A CHAPTER, CLICK ON ITS HEADING BELOW

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CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Before servicing this chassis, it is important that the service technician read the "IMPORTANT SAFETY INSTRUCTIONS" in this service manual.

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by a ⚠ on the schematics and on the parts list in this Service Data and its supplements and bulletins. Before servicing the chassis, it is important that the service technician read and follow the "Important Safety Instructions" in this Service Manual.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

PROJECTION COLOR TELEVISION

SEPT 2005 **HHEA-MANUFACTURING DIVISION**

IMPORTANT SAFETY INSTRUCTIONS
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by a ⚠on the schematics and on the parts list in this service manual and its supplements and bulletins. Before servicing this chassis, it is important that the service technician read and follow the "Important Safety Instructions" in this Service Manual.

For continued X-Radiation protection, replace picture tube with original type or Hitachi approved equivalent type.

This Service Manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead. Dispose of this product in accordance with applicable environmental laws. For product recycling and disposal information, contact you local government agency or the Electronic Industries Alliance at www.eiae.org (in the US) or the Electronic Product Stewardship Canada at www.epsc.ca (in Canada). For more information, call "1-800-HITACHI.

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health and Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with solder. Also, when soldering do not inhale any smoke or fumes produced.

This television receiver provides display of television closed captioning in accordance with section 15.119 of the FCC rules.

Do not place any objects on the top of the television which may fall or cause a child to climb to retrieve the objects.

Projection TV's are heavy and can mark or damage floor surfaces (especially wood flooring) if moved improperly. Do not slide or force TV into position. Always roll TV allowing casters at bottom of unit to help steep and position the TV.

PREVENTION OF SCREEN BURN

This wide screen TV is designed to display wide screen pictures. Images hould be viewed mostly in wide screen format or zoomed to fit the screen with moving pictures. Use of side panels, top and bottom panels of standard picture formats should only be 15% of your total viewing time to prevent uneven aging of the phosphors. Phosphors in the lighted area of the picture will age more rapidly than the gray areas. Continuous on-screen displays such as video games, stock market quotations, computer generated grphics, and other fixed (non-moving) patters can cause permanent damage to television receivers. Such "SCREEN BURNS" constitute misuse and are NOT COVERED by your HITACHI Factory Warranty.

PUBLIC VIEWING OF COPYRIGHTED MATERIAL

Pulic viewing of programs broadcast by TV stations and cable companies, as well as prgrams from other sources, may require prior authorization from the broadcaster or owner of the video program material.

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited consumer uses only unless otherwise authorized by Mcrovision. Reverse engineering or disassembly is prohibited.

FEDERAL COMMUNICATIONS COMMISSION NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

This digital television is capable of receiving analog basic, digital basic and digital premium cable television programming by direct connection to a cable system providing such programming. A CableCARD provided by your cable operator is required to view encrypted digital programing. Certain advanced and interactive digital cable services such as video-on-demand, a cable operator's enhanced program guide and data-enhanced television services may require the use of a set-top-box. For more information call your local cable company.

TABLE OF CONTENTS

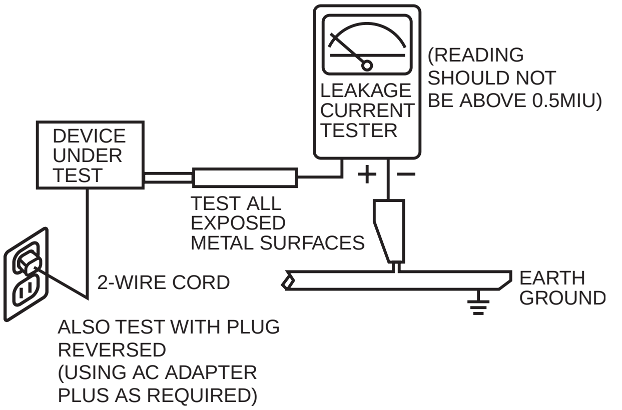
IMPORTANT SAFETY INSTRUCTION

1. Before returning an instrument to the customer, always make a safety check of the entire instrument, including but not limited to the following items.
   a. Be sure that no built-in protective devices are defective and/or have been deleted during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpaper, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

   b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to (1) spacing between the picture tube and cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

   c. **Antenna Cold Check** – With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input, exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohms or greater than 5.2 megohms, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

   d. **Leakage Current Hot Check** – With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.0 Leakage Current for Appliances and Underwriters Laboratories (UL) 6500, (9.1.1). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle bracket, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 MIU. Reverse the instrument power cord plug in the outlet and repeat test.


LEAKAGE CURRENT TESTER
(READING SHOULD NOT BE ABOVE 0.5MIU)
DEVICE UNDER TEST
+
−
TEST ALL EXPOSED METAL SURFACES
2-WIRE CORD
EARTH GROUND
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUS AS REQUIRED)

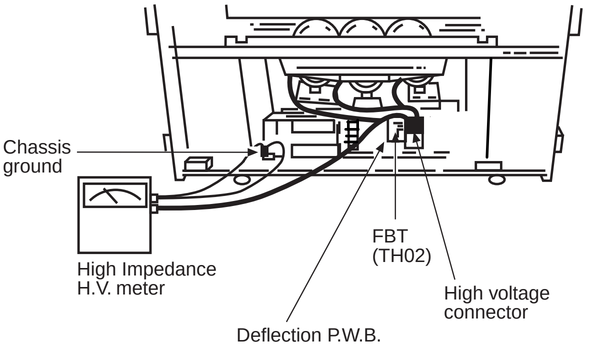
AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

   e. **High Voltage –** This receiver is provided with a hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply will all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit may correctly be operated.

   f. **Service Warning –** With maximum contrast, operating high voltage in this receiver is lower than **32.0 kV.** In case any component having influence on high voltage is replaced, confirm that the high voltage with maximum contrast is lower than **32.0 kV.**
   To measure H.V. use a high impedance H.V. meter. Connect (-) to chassis earth and (+) to the CRT anode button. (See the following connection diagram.)

   Note: Turn power switch off without fail before the connection to the anode button is made.

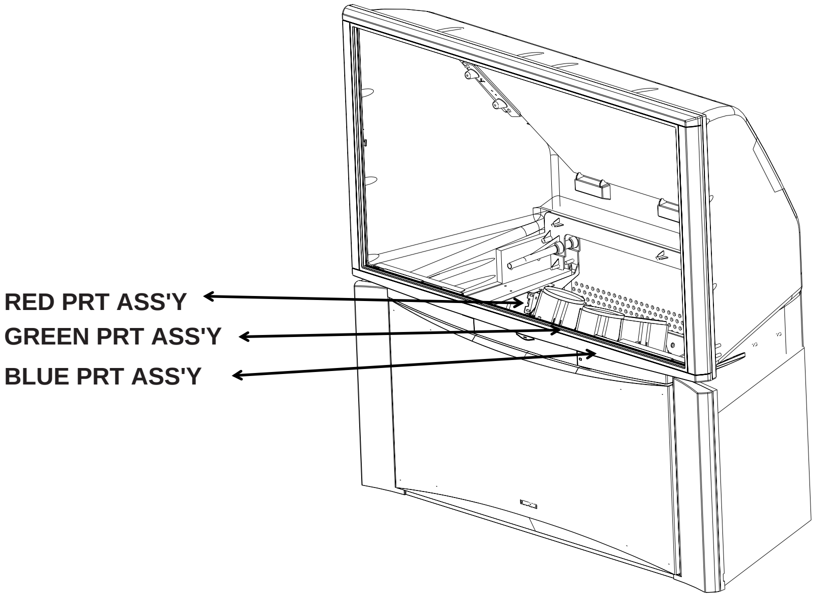


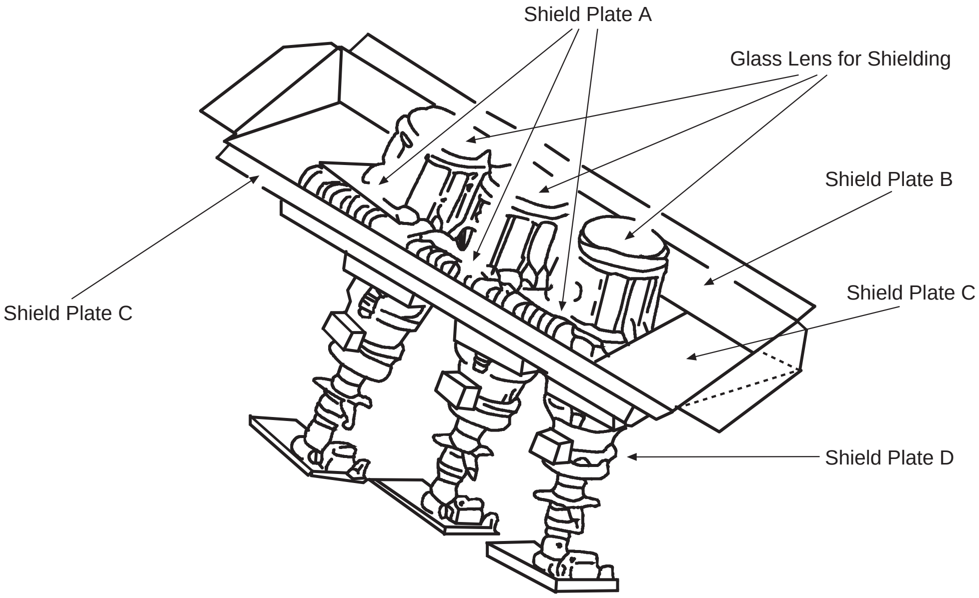
IMPORTANT SAFETY INSTRUCTIONS

g. **X-radiation – TUBE:** The primary source of X-radiation in this receiver is the picture tube. The tube utilized for the above mentioned function in this chassis is specially constructed to limit X-radiation emissions.
For continued X-radiation protection, the replacement tube must be the same type as the original, Hitachi approved type.
When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, avoid being unnecessarily close to the picture tube and the high voltage component.
Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.

h. **X-radiation Shield –**

1. This receiver is provided with X-ray shield plates for protection against X-radiation. Do not remove X-ray shield plates A, B, or C shown in Fig. 1 unnecessarily, when troubleshooting and/or making test measurements.
2. To prevent X-radiation, after replacement of picture tube and lens, confirm these components to be fixed correctly to bracket and cabinet, and not to be taken off easily.


RED PRT ASS'Y
GREEN PRT ASS'Y
BLUE PRT ASS'Y


Shield Plate A
Glass Lens for Shielding
Shield Plate B
Shield Plate C
Shield Plate C
Shield Plate D

Detailing X-radiation shield

Fig. 1. Installation of shield lens, shield cover and shield plates (oblique view).

IMPORTANT SAFETY INSTRUCTIONS

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning** – Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions including but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connectors, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions may void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning** – The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck.

5. **Hot Chassis Warning** – **a.** Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safely serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. Confirm that the AC power plug is inserted correctly with an AC voltmeter by measuring between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground. **b.** Some TV receiver chassis normally have 85V AC (RMS) between chassis and earth ground regardless of the AC plug polarity. These chassis can be safely serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection. c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: **a.** near sharp edges, **b.** near thermally hot parts – be sure that leads and components do not touch thermally hot parts, **c.** the AC supply, **d.** high voltage and **e.** antenna wiring. Always inspect in all areas for pinched, out-of-plate, or frayed wiring. Do not change spacing between components and the printed circuit board. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **PRODUCT SAFETY NOTICE** – Many TV electrical and mechanical parts have special safety-related characteristics some of which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified in Hitachi service data by shading on schematics and by a ⚠ in the parts list. Use of substitute replacement that does not have the same safety characteristics as the recommended replacement part in Hitachi service data parts list might create shock, fire, and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate. For the latest information, always consult the appropriate current Hitachi service literature. A subscription to, or additional copies of service literature may be obtained at a nominal charge from Hitachi.

SERVICING PRECAUTIONS

CAUTION: Before servicing instruments covered by this service data and its supplements and addenda, read and follow the “Important Safety Instructions” on page 3 of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Guidelines

1. Always unplug the instrument AC power cord from the AC power source before:
   a. Removing or reinstalling any component, circuit board, module, or any other instrument assembly.

   b. Disconnecting or reconnecting any instrument electrical plug or other electrical connection.

   c. Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.
   CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

   d. Discharging the picture tube anode.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc.) equipped with a suitable high voltage probe. Do not test high voltage by “drawing an arc.” The H.V. Distribution Box has an internal 400MΩ resistor (bleeder resistor) connected from the high voltage to ground. After power is removed from the instrument the high voltage will discharge through the high voltage bleeder resistor. If the tubes have high voltage after power is removed, then the bleeder resistor is defective or the bleeder ground is disconnected.

3. Discharge the picture tube’s anode at any of the R, G, or B outputs on the H.V. Distribution Box only by (a) first connecting one end of an insulated clip lead to the degaussing or kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch the other end of the insulated clip lead to the picture tube high voltage distribution box R, G, or B output, using an insulated handle to avoid personal contact with high voltage.

4. Do not spray chemicals on or near this instrument or any of its assemblies.

5. Unless specified otherwise in these service data, clean electrical contracts by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator: 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength).
   CAUTION: This is a flammable mixture. Unless specified otherwise in these service data, lubrication of contacts is not required.

6. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service data might be equipped.

7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heatsinks are correctly installed.

8. Always connect the test instrument ground lead to the appropriate instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

9. Use with this instrument only the test fixtures specified in this service data.
   CAUTION: Do not connect the test fixture ground strap to any heatsink in this instrument.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or desolder ES devices.

4. Use only can anti-static type solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ES device.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)

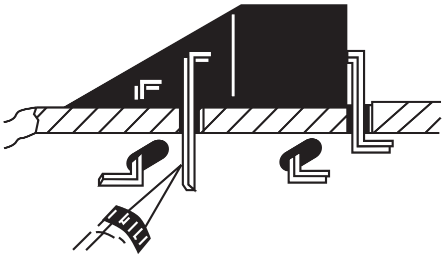
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

SERVICING PRECAUTIONS

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range 500°F to 600°F.
2. Use an appropriate lead free solder (see page 10). Lead solder can be used, but there is a possibility of failure due to insufficient strength of the solder.
3. Keep the soldering iron tip clean and well-tinned.
4. Thoroughly clean the surfaces to be soldered. Use a small wire-bristle (0.5 inch or 1.25 cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following desoldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).
   b. Heat the component lead until the solder melts. Quickly draw away the melted solder with an anti-static, suction-type solder removal device or with solder braid.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil.
6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).
   b. First, hold the soldering iron tip and solder strand against the component lead until the solder melts.
   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil or components.
   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.



Use Solding Iron to Pry Leads

IC Removal/Replacement

Some Hitachi unitized chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to areas.)

"Small-signal" Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect to replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact, then solder each connection.

Power Output Transistor Devices Removal/Replacements

1. Heat and remove all solder from around the transistor leads.
2. Remove the heatsink mounting screw (if so equipped).
3. Carefully remove the transistor from the circuit board.
4. Insert new transistor in circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heatsink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicularly to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original leads". If they are not shiny, reheat them and, if necessary, apply additional solder.

SERVICING PRECAUTIONS

Fuses and Conventional Resistor Removal/Replacement

1. Clip each fuse or resistor lead at top of circuit board hollow stake.

2. Securely crimp leads of replacement component around stake 1/8 inch from top.

3. Solder the connections.
   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board, to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board, causing the foil to separate from, or "lift-off," the board. The following guidelines and procedures should be followed whenever this condition is encountered.

In Critical Copper Pattern Areas

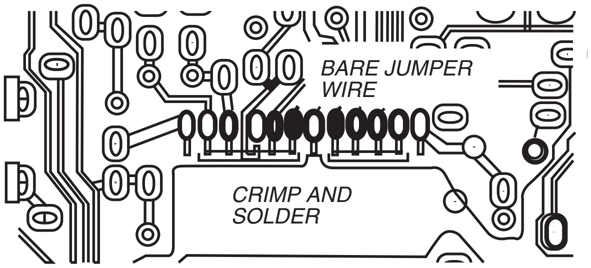
High component/copper pattern density and/or special voltage/current characteristics make the spacing and integrity of copper pattern in some circuit board areas more critical than in others. The circuit foil in these areas is designated as Critical Copper Pattern. Because Critical Copper Pattern requires special soldering techniques to ensure the maintenance of reliability and safety standards, contact your Hitachi personnel.

At IC Connections

To repair defective copper pattern at IC connections, use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections.)

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary.)

2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.



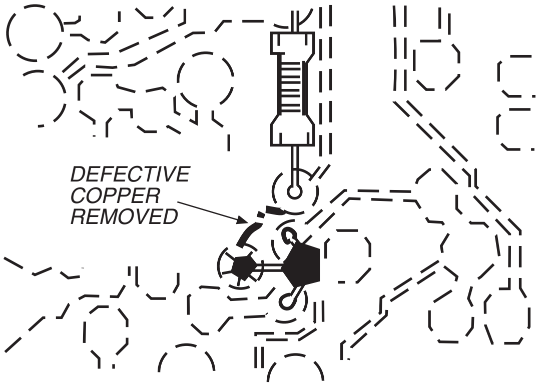
Install Jumper Wire and Solder

3. Bend a small "U" in one end of a small-gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.

4. Route the jumper wire along the path of the cut-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area, and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.



Insulated Jumper Wire

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure hazardous condition will not exist if the jumper wire opens.

2. Trace along the copper pattern from both wire sides of the pattern break and locate the nearest component directly connected to the affected copper pattern.

3. Connect insulated 20-gauge jumper wire from the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
   CAUTION: Be sure the insulated jumper wire is dressed so that it does not touch components or sharp edges.

Frequency Synthesis (FS) Tuning Systems

1. Always unplug the instrument AC power cord before disconnecting or reconnecting FS tuning system cables and before removing or inserting FS tuning system modules.

2. The FS tuner must never be disconnected from the FS tuning control module while power is applied to the instrument.

3. When troubleshooting intermittent problems that might be caused by defective cable connection(s) to the FS tuning system, remove the instrument AC power as soon as the defective connector is found and finish confirming the bad connection with a continuity test. This procedure will reduce the probability of electrical overstress of the FS system semi-conductor components.

SERVICING PRECAUTIONS

NOTE: ***These components are affixed with glue. Be careful not to break or damage any foil under the component or at the pins of the ICs when removing. Usually applying heat to the component for a short time while twisting with tweezers will break the component loose.***

Leadless Chip Components (surface mount)

Chip components must be replaced with identical chips due to critical foil track spacing. There are no holes in the board to mount standard transistors or diodes. Some chip capacitor or resistor board solder pads may have holes through the board, however the hole diameter limits standard resistor replacement to 1/8 watt. Standard capacitors may also be limited for the same reason. It is recommended that identical chip components be used. .

Chip resistors have a three digit numerical resistance code -1st and 2nd significant digits and a multiplier. Example: 162 = 1600 or 1.6KΩ resistor, 0 = 0Ω (jumper).

Chip capacitors generally do not have the value indicated on the capacitor. The color of the component indicates the general range of the capacitance.

Chip transistors are identified by a two letter code. The first letter indicates the type and the second letter, the grade of transistor.

Chip diodes have a two letter identification code as per the code chart and are a dual diode pack with either

common anode or common cathode. Check the parts list for correct diode number.

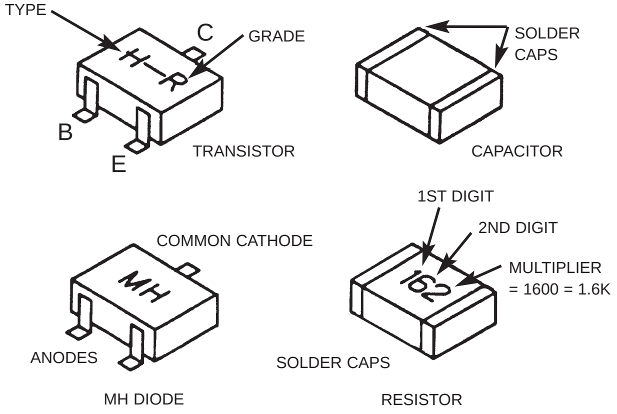
Component Removal

1. Use solder wick to remove solder from component end caps or terminals.
2. Without pulling up, carefully twist the component with tweezers to break the adhesive.
3. Do not reuse removed leadless or chip components since they are subject to stress fracture during removal .

Chip Component Installation

1. Put a small amount of solder on the board soldering pads.
2. Hold the chip component against the soldering pads with tweezers or with a miniature alligator clip and apply heat to the pad area with a 30 watt iron until solder flows. Do not apply heat for more than 3 seconds

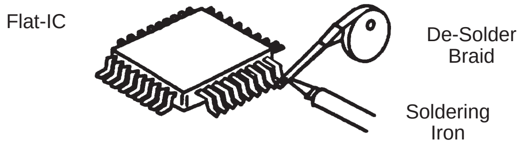
Chip Components


TYPE
C
GRADE
H—R
B
E
TRANSISTOR
SOLDER CAPS
CAPACITOR
1ST DIGIT
2ND DIGIT
MULTIPLIER = 1600 = 1.6K
162
COMMON CATHODE
MH
ANODES
SOLDER CAPS
MH DIODE
RESISTOR

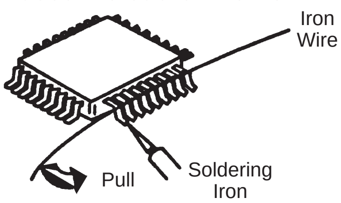
How to Replace Flat-IC —Required Tools—

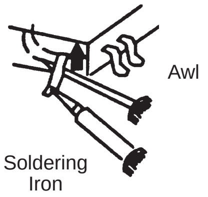
- Soldering iron
- De-solder braids
- iron wire or small awl
- Magnifier

1. Remove the solder from all of the pins of a Flat-IC by using a de-solder braid.

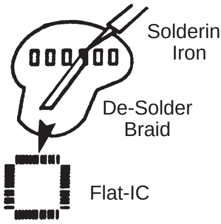

Flat-IC
De-Solder Braid
Soldering Iron

2. Put the iron wire under the pins of the Flat-IC and pull it in the direction indicated while heating the pins using a soldering iron. A small awl can be used instead of the iron wire.

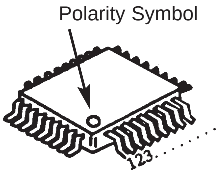

Iron Wire
Pull
Soldering Iron


Awl
Soldering Iron

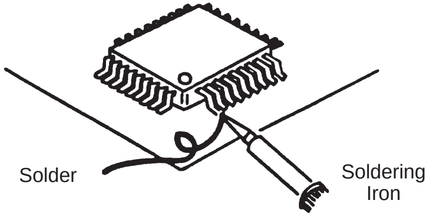
3. Remove the solder from all of the pads of the Fiat-IC by using a de-solder braid.


Soldering Iron
De-Solder Braid
Flat-IC

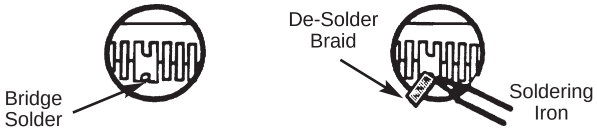
4. Position the new Flat-IC in place (apply the pins of the Flat-IC to the soldering pads where the pins need to be soldered). Properly determine the positions of the the soldering pads and pins by correctly aligning the polarity symbol.


Polarity Symbol
123

5. Solder all pins to the soldering pads using a fine tipped soldering iron.


Solder
Soldering Iron

6. Check with a magnifier for solder bridge between the pins or for dry joint between pins and soldering pads. To remove a solder bridge, use a de-solder braid as shown in the figure below.


Bridge Solder
De-Solder Braid
Soldering Iron

Information for service about lead-free solder introduction

Hitachi introduced lead-free solder to conserve the "Earth Environment".
Please refer to the following before servicing.

(1) Characteristic of lead-free solder

Melting point of lead free solder is 40-50°C higher than solder containing lead.

(2) Solder for service
Following composition is recommended.
" Sn - 3.0Ag - 0.5Cu " , or " Sn - 0.7 Cu "
Lead solder can be used, but there is a possibility of failure due to insufficient strength of the solder.

Caution when using solder containing lead.
Please remove previous solder as much as possible from the soldering point.
When soldering, please perfectly melt the lead-free solder to mix well with the previous solder.

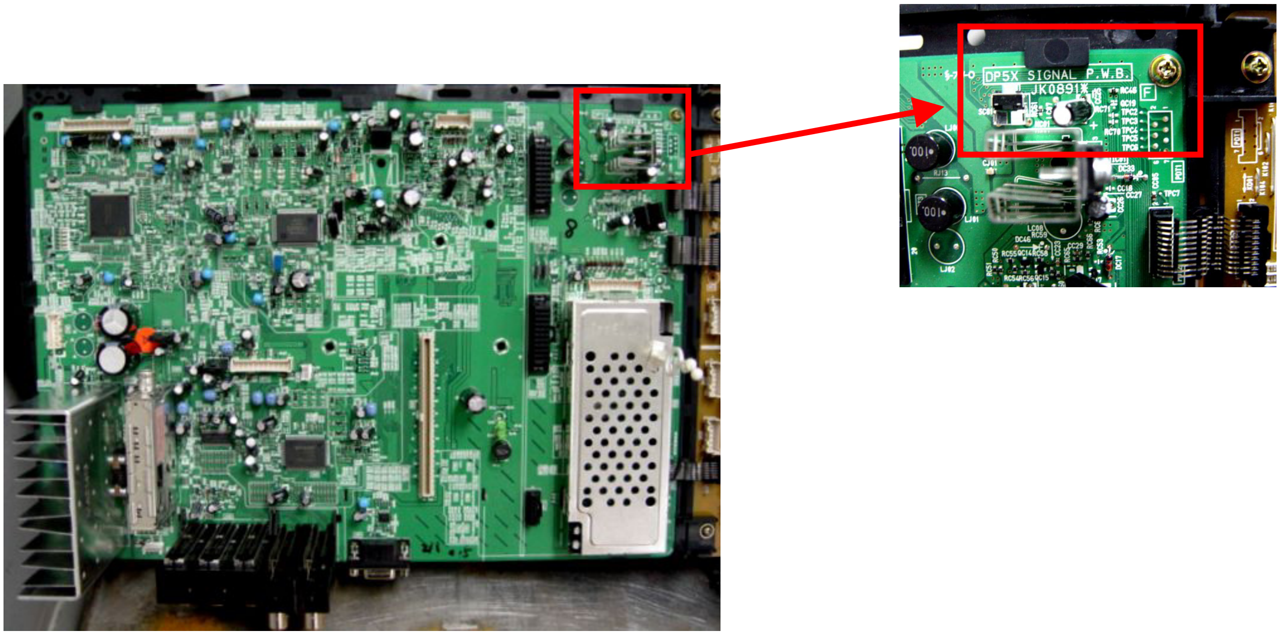
(3) Soldering iron for lead-free solder.
Melting point of lead-free solder is higher than solder containing lead.
Use of a soldering tool "with temperature control" and "with much thermal capacitance" is recommended.
(Recommended temperature control : 320°C - 450°C)

Recommended temperature	
PWB with chip parts	320°C +/- 30°C
PWB without chip parts	380°C +/- 30°C
Chassis, metal, shield etc.	420°C +/- 30°C

(4) Identification of lead-free PWB

2003 models	>> mixed
2004 models	>> lead-free solder is introduced
2005 models	>> lead-free solder apply

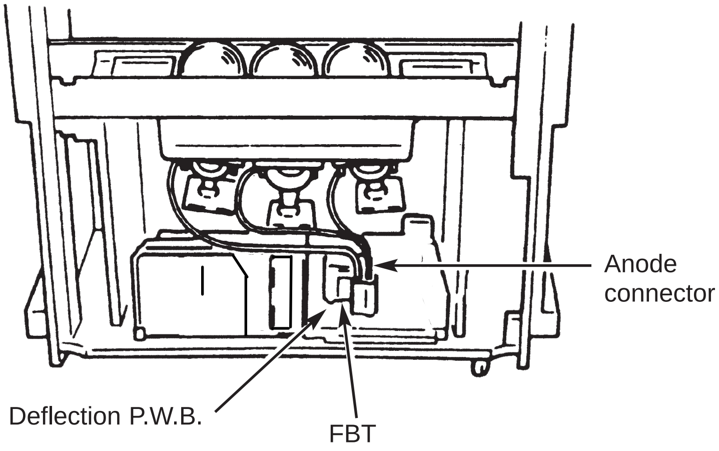
On lead-free PWB, "F" is added at the beginning of stamp on PWB. (e.g. F DP55)



TECHNICAL CAUTIONS

CAUTIONS WHEN CONNECTING / DISCONNECTING THE HV CONNECTOR

Perform the following when the HV connector (anode connector) is removed or inserted for CPT replacement, etc.


Anode connector
Deflection P.W.B.
FBT

During Removal

1. Roll out silicon cover from FBT's contact area slowly.
2. While turning the connector about 90 degrees following the arrow (0 position), push the connector slightly towards the case. (Fig. A)

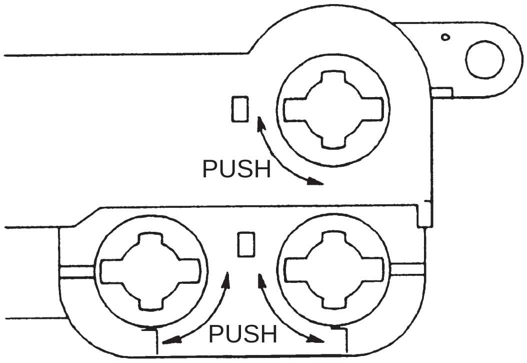


Fig. A

3. Remove the connector slowly by pulling it away from the case.

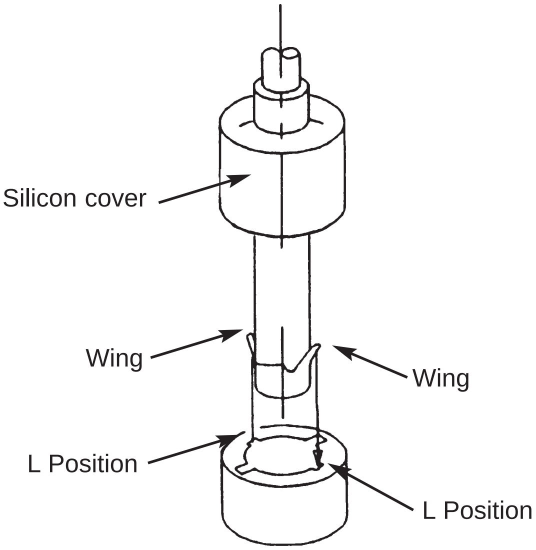

Silicon cover
Wing
Wing
L Position
L Position

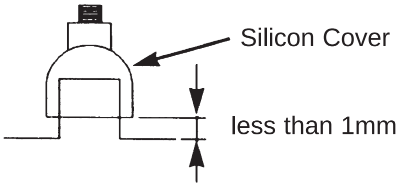
Fig. B

During Insertion

1. Please refer to direction for insertion as shown in Fig. B (L position). Insert connector until “CLICK” sound is heard.
2. Make sure the connector is pressed right in, so that it has a good contact with the spring.
3. Confirm the contact by pulling the connector slightly. (Don't pull hard because it may damage the connector).
4. Cover the high voltage output by carefully pushing silicon cover onto it. (Don't turn the connector).

(REMARK)

1. Make sure the silicon cover is covering the high voltage output.


Silicon Cover
less than 1mm

TECHNICAL CAUTIONS

High Voltage limiter circuit operation check.

1. Turn off TV and connect jig as shown in Figure 2. Adjust jig fully counter-clockwise for minimum resistance.

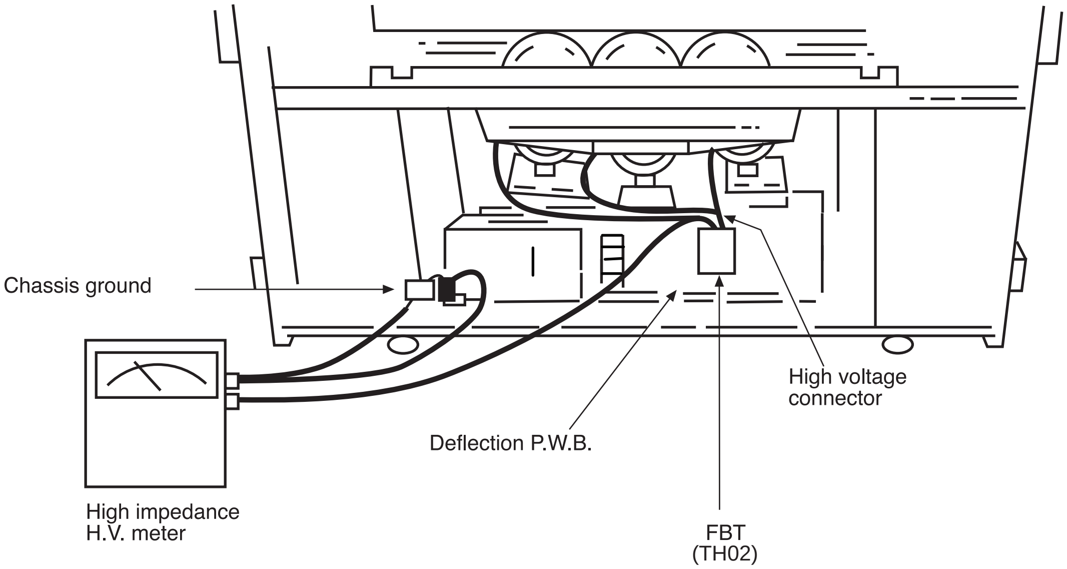
2. Set the AC input to 120V AC and turn on TV.

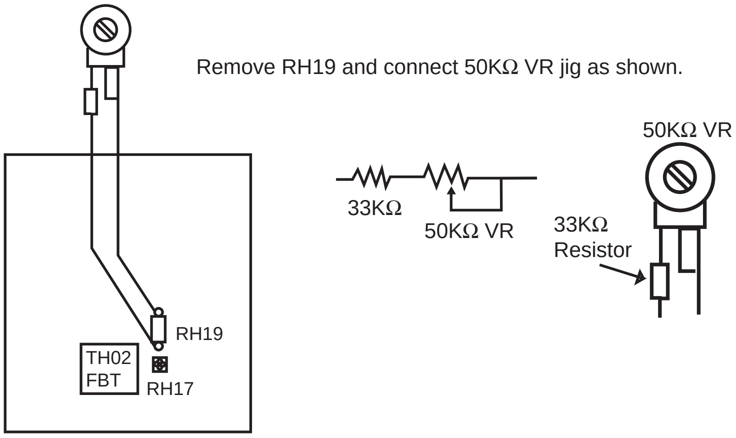
3. Confirm test pattern on CRT is a usable picture, then slowly adjust jig until the picture disappears and TV shuts down.

4. When the limiter circuit is operating properly, High Voltage will be less than 37 kV at 1.62mA when TV shuts down.

5. Turn off set immediately after checking circuit operation.

6. Unplug set for one minute to reset shutdown circuit. Remove jig and voltmeter.


Chassis ground
High voltage connector
Deflection P.W.B.
High impedance H.V. meter
FBT (TH02)

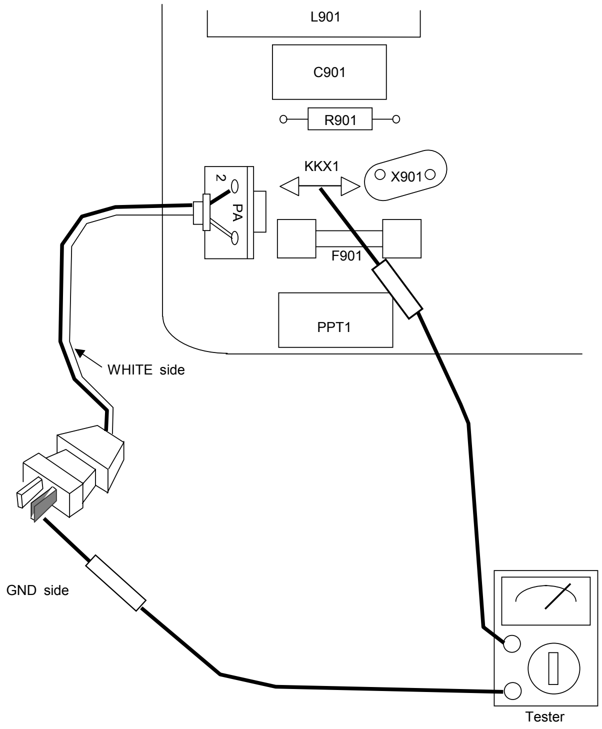

RH19
TH02 FBT
RH17
33KΩ
50KΩ VR
33KΩ Resistor
50KΩ VR

Remove RH19 and connect 50KΩ VR jig as shown.

Fig. 2. Power/Deflection P.W.B

AC CORD POLARITY

This check is based on the UL standard. Use the jigs specified by the production technology section. The GND side (wider blade) of the AC power cord should be connected to KKX1


L901
C901
R901
KKX1
X901
2
PA
F901
PPT1
WHITE side
GND side
Tester

SPECIFICATIONS

Models: 51F710A 57F710 65F710A

Cathode-Ray Tube:

R=P16MAB00RFA
G=P16MAB00HHA
B=P16MAB00BMB

Power Consumption:
- Power Consumption (operating)
  51/57/65F710A 200W
- Power Consumption (maximum)
  51/57/65F710A 250W

Antenna Impedance: 75 Ohm Unbalanced
VHF / UHF / CATV

Receiving Channel:

BAND	CH
VHF	2~13
UHF	14~69
EXT. Mid	(A-5)~(A-1), 4+
CATV Mid.	A~I
CATV Super	J~W
CATV Hyper	(W+1)~(W+28)
CATV Ultra	(W+29)~(W+84)

Intermediate Frequency: Picture I-F Carrier 45.75 MHz
Sound I-F Carrier 41.25 MHz
Color Sub Carrier 42.17 MHz

Video Input: 1 Volt p-p, 75 Ohm

Video Output: 1 Volt p-p, 75 ohm

Audio Input: 470 mVrms, 47 k Ohm

Stereo Audio Output: 470 mVrms, 1 k Ohm

Audio Output Power:

Front: 24 watts per channel at 10% distortion,
8 ohm Impedance. Max output 25 watts.

Anode Voltage:
DP55 31.7±0.3kv (1.59±0.2mA)

Brightness:	**51”**	**57”**	**65”**
(white screen)	260cd/m^2	205cd/m^2	160cd/m^2

Speakers: 51” 2 Woofers - 5 inch (12 cm) round
57” 2 Woofers - 6 inch (16 cm) round
65” 2 Woofers - 6 inch (16 cm) round

DIMENSIONS:	**51F710A**	**57F710A**	**65F710A**
Height (in.)	50-3/8	54-9/16	59-15/16
(mm)	1,279.0	1,385.6	1,521.0
Width (in.)	48-3/4	54	61
(mm)	1,239.0	1,372.0	1,549.0
Depth (in.)	21-7/8	23-5/8	25-3/8
(mm)	557	599.4	644
Weight (lbs.)	187.4	205	309
(kg.)	85	93	140

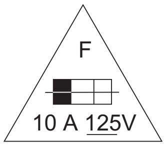
Circuit Board Assemblies:

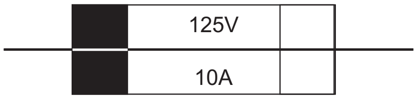
CPT (B) P.W.B.
CPT (G) P.W.B
CPT (B) P.W.B.
Deflection P.W.B.
Signal P.W.B.
Sensor / IR P.W.B.
Power P.W.B.
Digital Main P.W.B.
Digital Sub P.W.B.

CIRCUIT PROTECTION

CAUTION: Below is an EXAMPLE only. See Replacement Parts List for details. The following symbol near the fuse indicates fast operation fuse (to be replaced). Fuse ratings appear within the symbol.

Example:





The rating of fuse F901 is 10A - 125V.
Replace with the same type fuse for continued protection against fire.

“RISK OF FIRE - REPLACE FUSE AS MARKED”

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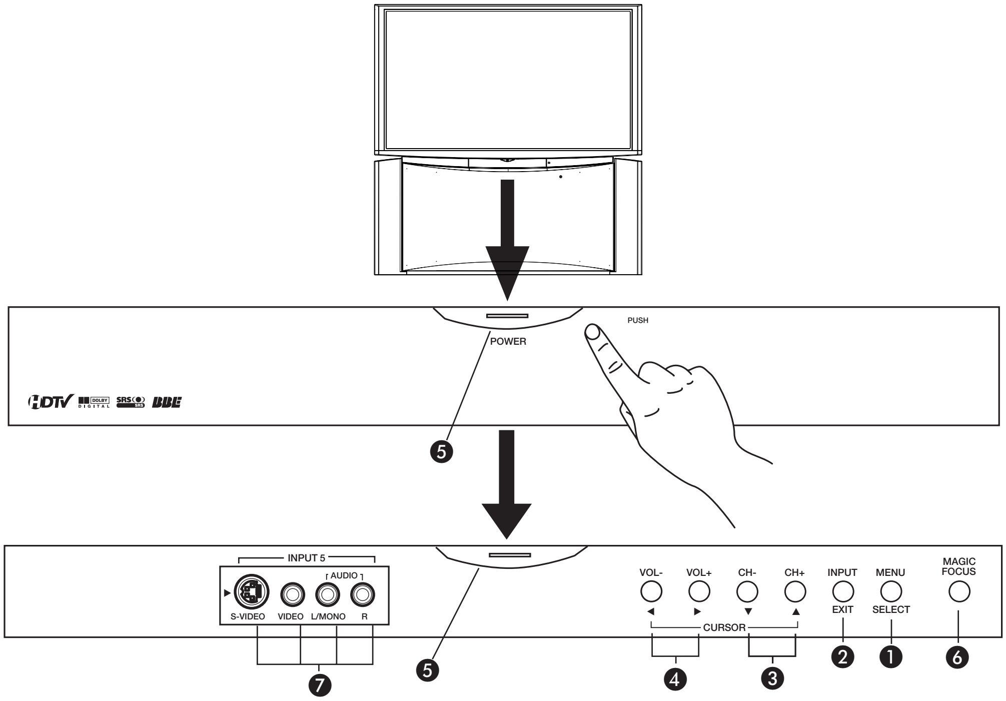
GENERAL INFORMATION



❶ **MENU/SELECT button**
This button allows you to enter the **MENU**, making it possible to set TV features to your preference without using the remote. This button also serves as the **SELECT** button when in **MENU** mode.

❷ **INPUT/EXIT button**
Press this button to display the input menu, **CABLE**, **AIR**, **INPUT**: **1, 2, 3, 4** and **5**. This button also serves as the **EXIT** button when in **MENU** mode.

❸ **CHANNEL selector**
Press these buttons until the desired channel appears in the top right corner of the TV screen. These buttons also serve as the cursor down (▼) and up (▲) buttons when in **MENU** mode.

❹ **VOLUME level**
Press these buttons for your desired sound level. The volume level will be displayed on the TV screen. These buttons also serve as the cursor left (◀) and right (▶) buttons when in **MENU** mode. When the TV power is turned OFF at a volume level 31 or greater, the volume level will default to 30 when the TV is turned ON. However, if it is set to a level 30 or less, the volume level will be at the level it was set when the TV is turned ON.

❺ **POWER button/ POWER LED**
Press this button to turn the TV on or off. This LED light is on during normal operation. At initial TV turn on, the TV cannot receive any button or Remote Control signals for approximately five seconds while the internal programming is loading. This is a normal default operation of this television and is an energy saving feature. You can choose not to use this feature by selecting **ON** for the **QUICK START UP** option in the On Screen Display Menu. Select **SETUP** in the On Screen Display Menu, then select **QUICK START UP**. Select the **ON** feature to quickly tune and view channels at initial TV turn on.

❻ **MAGIC FOCUS**
Use this button to automatically adjust your picture quality to optimum performance.

❼ **FRONT INPUT JACKS (INPUT 5)**
Use these audio/video jacks for a quick hook-up from a camcorder or VCR to instantly view your favorite show or new recording. Press the **INPUT** button and select **INPUT 5**. If you have mono sound, insert the audio cable into the left audio jack.

❽ **IR RECEIVER Sensor**
This is a remote sensor for a better remote control range of response.

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GENERAL INFORMATION

❶ Antenna Input

CABLE – A 75-Ohm RF antenna or **CATV** (Cable TV) input. **CABLE** input can be displayed as a main picture or sub-picture.
AIR – A 75-Ohm RF antenna input. **AIR** input can only be displayed as a main picture. **AIR** input cannot be displayed as a sub-picture.

NOTE: You may ask your local cable company whether DTV services are available.

❷ Audio/Video Inputs 1, 2, 3 and 4

By using the **INPUTS** button, **CURSOR** buttons and **SELECT** button of the remote control you can select each video source. Use the audio and video inputs to connect external devices, such as VCRs, camcorders, laserdisc players, DVD players etc. (If you have mono sound, insert the audio cable into the left audio jack.)

*NOTE: You may use **VIDEO** or **S-VIDEO** inputs to connect to **INPUT 1** and **2**, but only one of these inputs may be used at a time.*

❸ Monitor Out

These jacks provide fixed or variable audio and video signals which are used for recording. Use the S-Video Output for high quality video output .

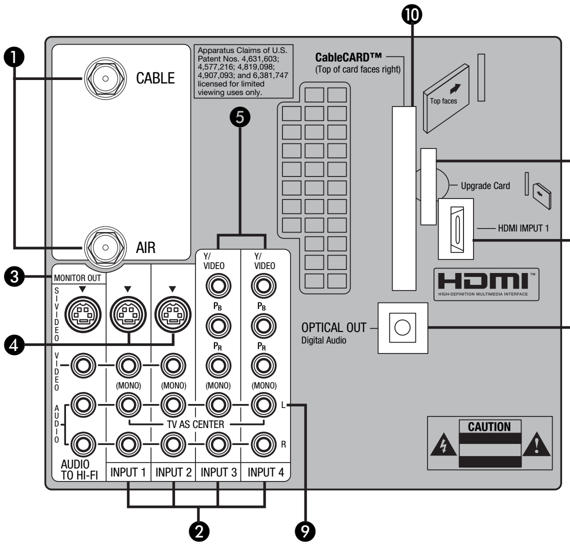
❹ S-Video Inputs 1 and 2

INPUTS 1 and **2** provide S-Video (Super Video) jacks for connecting equipment with S-Video output capability.

❺ Component: Y-$P_B P_R$ Inputs

INPUTS 3 and **4** provide Y-$P_B P_R$ jacks for connecting equipment with this capability, such as a DVD player or Set Top Box. You may use composite video signal for both inputs.

NOTE:
1. *Do not connect composite **VIDEO** and **S-VIDEO** to **INPUT 1, 2** or **5** at the same time. **S-VIDEO** has priority over **VIDEO** input.*
2. *Your component outputs may be labeled Y, B-Y, and R-Y. In this case, connect the components B-Y output to the TV's P_B input and the components R-Y output to the TV's P_R input.*
3. *Your component outputs may be labeled Y-$C_B C_R$. In this case, connect the component C_B output to the TV's P_B input and the component C_R output to the TV's P_R input.*
4. *It may be necessary to adjust **TINT** to obtain optimum picture quality when using the Y-$P_B P_R$ inputs .*
5. *To ensure no copyright infringement, the **MONITOR OUT** output will be abnormal, when using the Y-$P_B P_R$ jacks.*
6. ***INPUT 3** and **INPUT 4** (Y/VIDEO) can be used for composite video and component video input.*


❿
❶
CABLE
AIR
Apparatus Claims of U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.
CableCARD™
(Top of card faces right)
Top faces
❺
❽
Upgrade Card
HDMI IMPUT 1
❻
HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
❸
MONITOR OUT
S-VIDEO
Y/ VIDEO
P_B
P_R
❹
OPTICAL OUT
Digital Audio
❼
VIDEO
(MONO)
AUDIO
L
TV AS CENTER
R
CAUTION
AUDIO TO HI-FI
INPUT 1
INPUT 2
INPUT 3
INPUT 4
❷
❾

❻ HDMI1 (High Definition Multimedia Interface) (INPUT 1)

ABOUT HDMI – **HDMI** is the next-generation all digital interface for consumer electronics. **HDMI** enables the secure distribution of uncompressed high-definition video and multi-channel audio in a single cable. Because digital television (DTV) signals remain in digital format, **HDMI** assures that pristine high-definition images retain the highest video quality from the source all the way to your television screen.

Use the **HDMI** input for your external devices such as Set-Top-Boxes or DVD players equipped with an **HDMI** output connection.

***HDMI**, the **HDMI** logo and High-Definition Multimedia Interface are trademarks or registered trademarks of **HDMI** Licensing LLC.*

NOTE:
1. *The **HDMI** input is not intended for use with personal computers.*
2. *Only DTV formats such as **1080I**, **720P**, **480I** and **480P** are available for **HDMI** input.*

❼ Optical Out (Digital Audio)

This jack provides Digital Audio Output for your audio device that is Dolby® Digital and PCM compatible, such as an audio amplifier.

*Manufactured under license from Dolby Laboratories. "**DOLBY**" and the **DOUBLE-D** symbol are trademarks of Dolby Laboratories.*

❽ Upgrade Card

This card slot is for future software upgrades. Hitachi will notify you if a software upgrade is required for your TV. In order to receive written notification, please complete and return your warranty card.

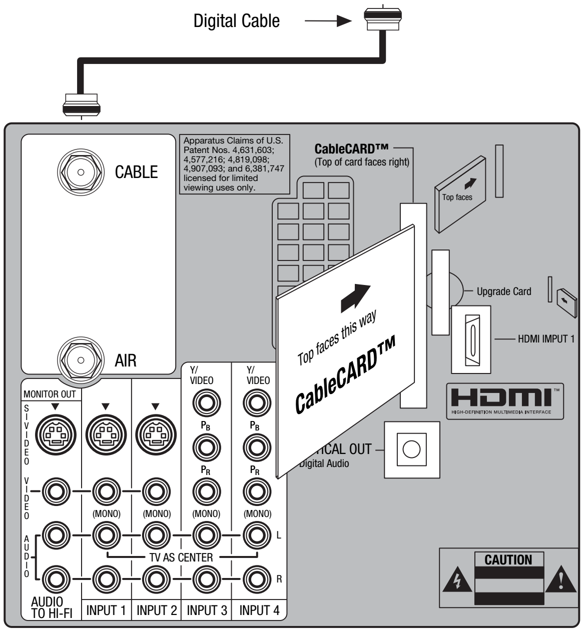
⑨ TV AS CENTER (INPUTS 1-4)

These jacks are for stereo amplifiers with center signal output capability. This feature allows the TV speakers to be used as a center speaker. The TV must be set as a center channel by selecting **TV AS CENTER** on the Internal Speakers Settings of the Audio Menu.

⑩ CableCARD Slot

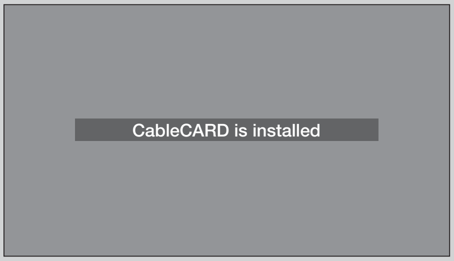
This slot is for the CableCARD that will be provided by your local cable operator to gain access to chosen cable channels. The CableCARD will allow you to tune digital and high definition cable channels. Please call your local cable operator if this service is available before requesting a CableCARD (also known as Point of Deployment (POD) module).

1. Connect a coaxial cable to cable terminal of the Rear Panel Jacks.
2. Insert the CableCARD into the slot (Top of card should be facing right as shown below).


Digital Cable
CABLE
AIR
Apparatus Claims of U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.
CableCARD™
(Top of card faces right)
Top faces
Upgrade Card
HDMI IMPUT 1
Top faces this way
CableCARD™
ICAL OUT
Digital Audio
HDMI
MONITOR OUT
S-VIDEO
VIDEO
AUDIO
Y/ VIDEO
PB
PR
(MONO)
L
R
TV AS CENTER
AUDIO TO HI-FI
INPUT 1
INPUT 2
INPUT 3
INPUT 4
CAUTION

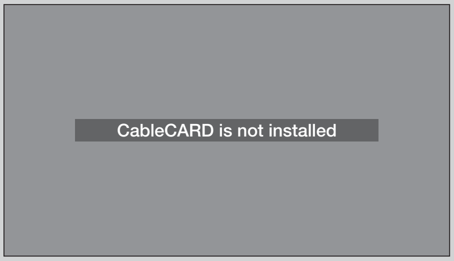
NOTE: 1. A digital cable subscription is required.
2. Do not insert a PCMCIA card into the CableCARD slot.

If the CableCARD is properly installed or not installed, the TV will display the following respective screens.



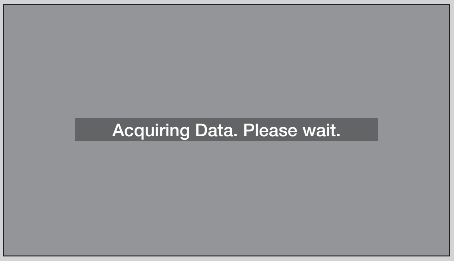
CableCARD is installed

OR

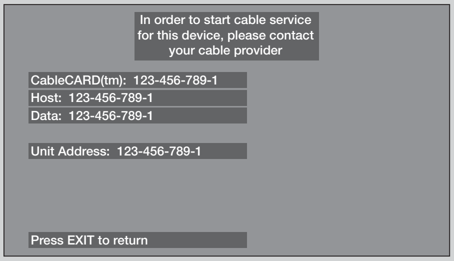


CableCARD is not installed

After the CableCARD is installed, wait until the second screen below appears. The third screen below will appear if a channel is not authorized for viewing. Press the **EXIT** button to exit the second screen.



Acquiring Data. Please wait.



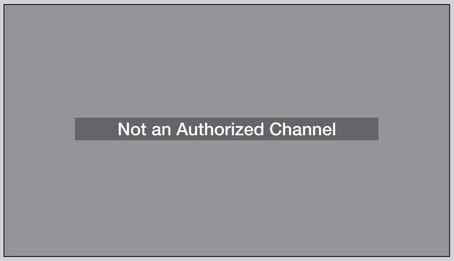
In order to start cable service for this device, please contact your cable provider

CableCARD(tm): 123-456-789-1
Host: 123-456-789-1
Data: 123-456-789-1

Unit Address: 123-456-789-1

Press EXIT to return

OR



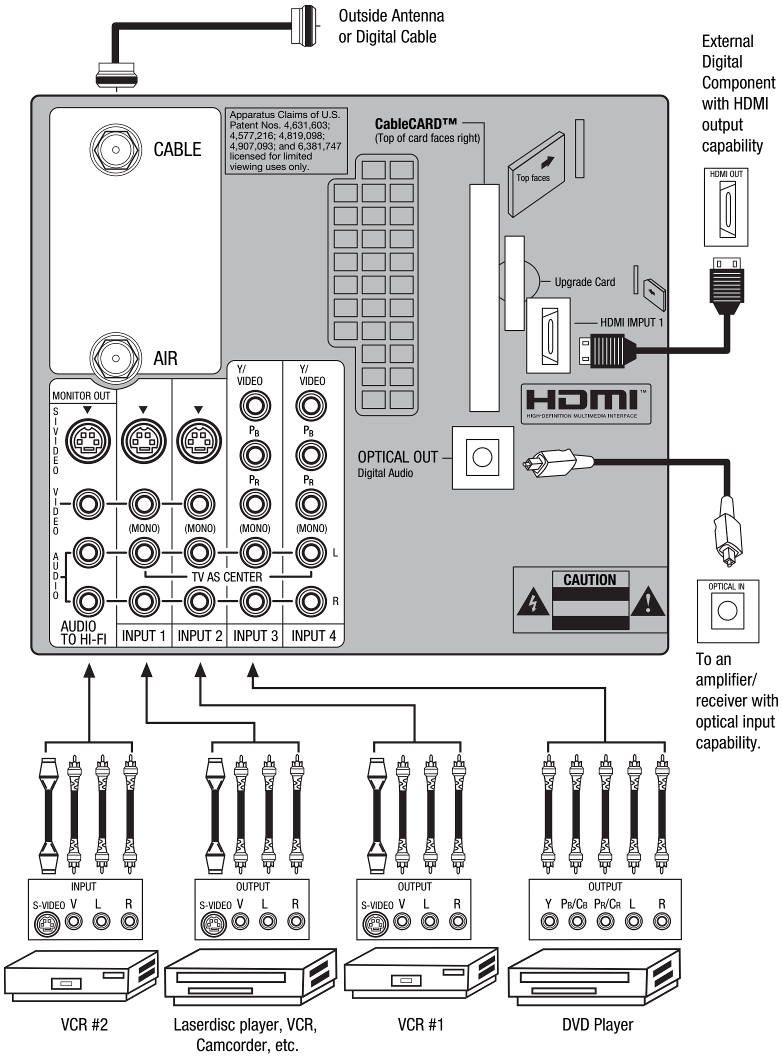
Not an Authorized Channel

Please take note of all information on the screen (you will provide this information to your cable operator). Call your cable operator and give them the information from the card to start your cable service.

GENERAL INFORMATION

TIPS ON REAR PANEL CONNECTIONS

- **S-VIDEO**, **Y-PBPR** and **HDMI** connections are provided for high performance laserdisc players, VCRs etc. that have this feature. Use these connections in place of the standard video connection if your device has this feature.
- If your device has only one audio output (mono sound), connect it to the left audio jack on the television.
- Refer to the operating guide of your other electronic equipment for additional information on connecting your hook-up cables.
- A single VCR can be used for VCR #1 and VCR #2, but note that a VCR cannot record its own video or line output (**INPUT 1** in the example on this page). Refer to your VCR operating guide for more information on line input-output connections.
- You may use **VIDEO** or **S-VIDEO** inputs to connect to **INPUT 1**, **INPUT 2** or **INPUT 5**, but only one of these may be used at a time.
- Connect only one component (VCR, DVD player, camcorder, etc.) to each input jack.


Outside Antenna
or Digital Cable
External Digital Component with HDMI output capability
HDMI OUT
CABLE
AIR
Apparatus Claims of U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.
CableCARD™
(Top of card faces right)
Top faces
Upgrade Card
HDMI IMPUT 1
HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
OPTICAL OUT
Digital Audio
MONITOR OUT
S-VIDEO
VIDEO
AUDIO
Y/VIDEO
PB
PR
(MONO)
L
R
TV AS CENTER
AUDIO TO HI-FI
INPUT 1
INPUT 2
INPUT 3
INPUT 4
CAUTION
OPTICAL IN
To an amplifier/receiver with optical input capability.
INPUT
OUTPUT
S-VIDEO
V
L
R
Y
PB/CB
PR/CR
VCR #2
Laserdisc player, VCR, Camcorder, etc.
VCR #1
DVD Player

- COMPONENT: **Y-PBPR (INPUT 3** and **INPUT 4)** connections are provided for high performance components, such as DVD players and set-top-boxes. Use these connections in place of the standard video connection if your device has this feature. **INPUT 3** accepts both composite and component video signals.
- Your component outputs may be labeled **Y, B-Y,** and **R-Y**. In this case, connect the components **B-Y** output to the TV's **PB** input and the components **R-Y** output to the TV's **PR** input.
- Your component outputs may be labeled **Y-CBCR**. In this case, connect the components **CB** output to the TV's **PB** input and the components **CR** output to the TV's **PR** input.
- You may use composite and component video signals for **INPUT 3** and **INPUT 4**.
- It may be necessary to adjust **TINT** to obtain optimum picture quality when using the **Y-PBPR** inputs .
- To ensure no copyright infringement, the **MONITOR OUT** output may be abnormal, when using the **Y-PBPR** jacks.
- When using an **HDMI** input from a Set-Top-Box, it is recommended that a **1080i** or **720p** input signal is used.

NOTE:
1. *Connect only one component to each input jack.*
2. *Follow connections that pertain to your personal entertainment system.*
3. ***INPUT 3** and **INPUT 4** can accomodate Composite and Component video signals.*
4. *Cables are not included with the purchase of this TV, except when noted as "provided".*

MACROVISION NOTES:
1. *Video signals fed through a VCR may be affected by copyright protection systems and the picture will be distorted on the television.*
2. *Connecting the television directly to the Audio /Video output of a Set-Top-Box will assure a more normal picture.*

Connecting External Audio Sources

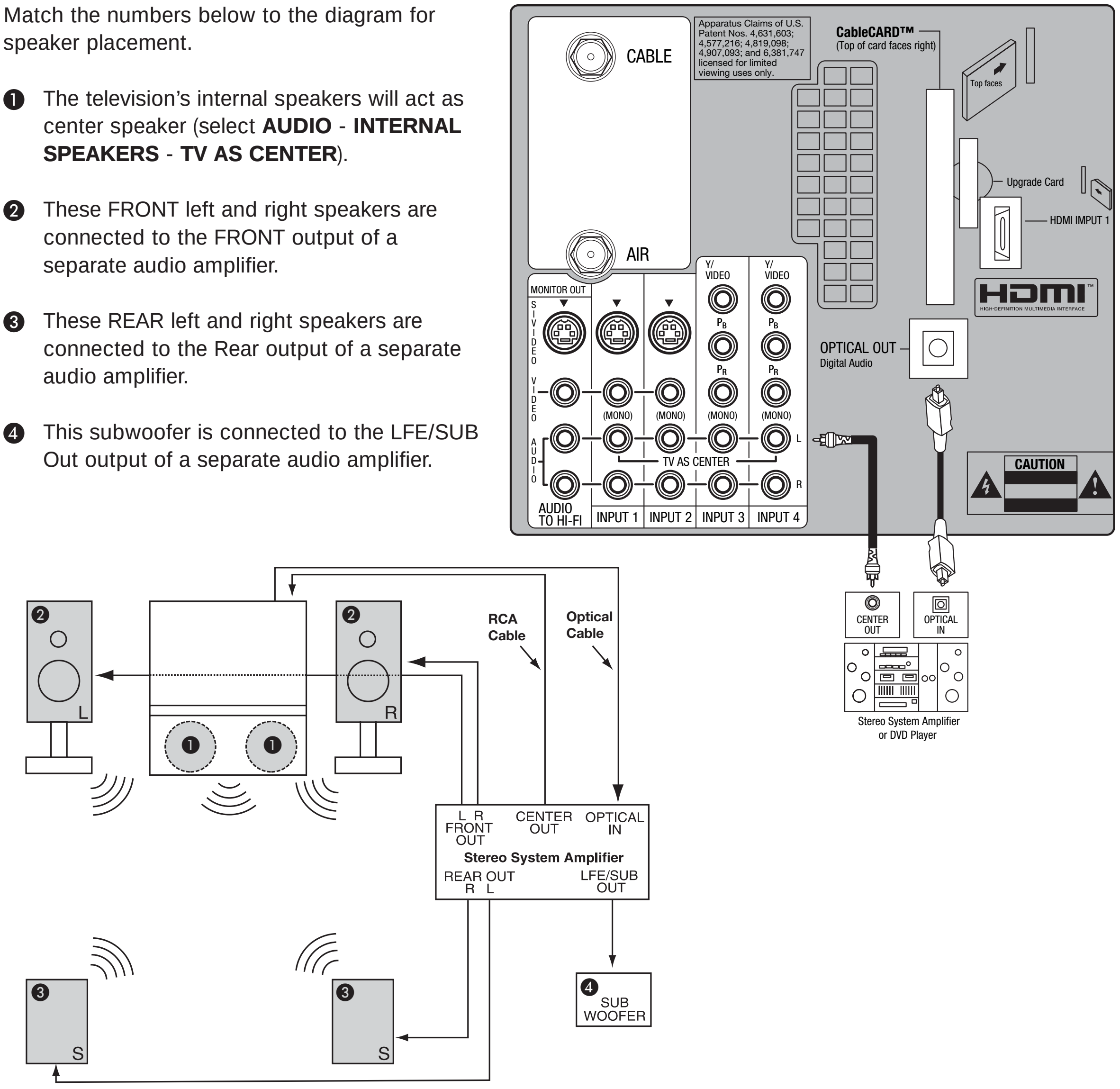
Match the numbers below to the diagram for speaker placement.

❶ The television's internal speakers will act as center speaker (select **AUDIO** - **INTERNAL SPEAKERS** - **TV AS CENTER**).

❷ These FRONT left and right speakers are connected to the FRONT output of a separate audio amplifier.

❸ These REAR left and right speakers are connected to the Rear output of a separate audio amplifier.

❹ This subwoofer is connected to the LFE/SUB Out output of a separate audio amplifier.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HDMI IMPUT 1
HDMI
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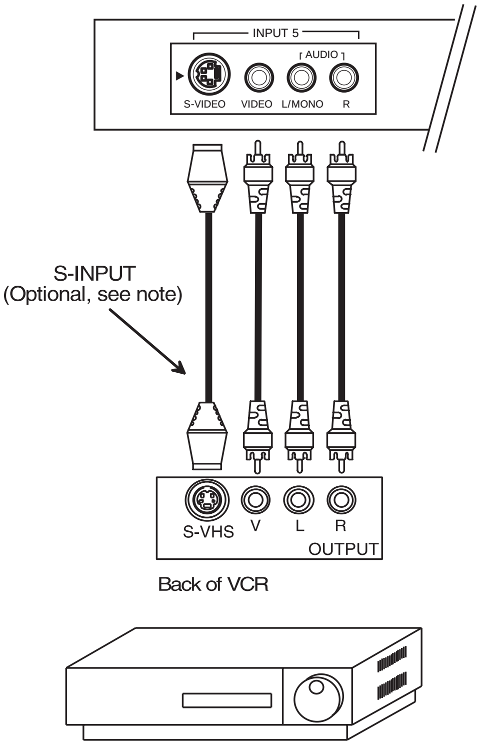
L
R
TV AS CENTER
AUDIO TO HI-FI
INPUT 1
INPUT 2
INPUT 3
INPUT 4
OPTICAL OUT
Digital Audio
CAUTION
CENTER OUT
OPTICAL IN
Stereo System Amplifier or DVD Player
❷
L
❷
R
❶
❶
RCA Cable
Optical Cable
L R FRONT OUT
CENTER OUT
OPTICAL IN
Stereo System Amplifier
REAR OUT R L
LFE/SUB OUT
❸
S
❸
S
❹ SUB WOOFER

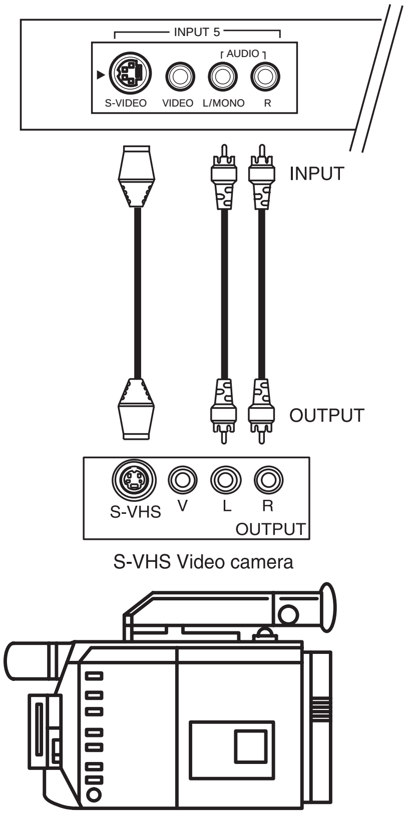
NOTE: 1. The Optical Out (Digital Audio) provides a fixed digital audio output to your external component such as an A/V receiver with optical input capability. The audio level can only be controlled through the volume control of the external audio amplifier.

2. See page 37 for AUDIO-Digital Output.

Front Panel Jacks and Connections

The front panel jacks are provided as a convenience to allow you to easily connect a camcorder or VCR as shown in the following examples:


INPUT 5
AUDIO
S-VIDEO
VIDEO
L/MONO
R
S-INPUT
(Optional, see note)
S-VHS
V
L
R
OUTPUT
Back of VCR

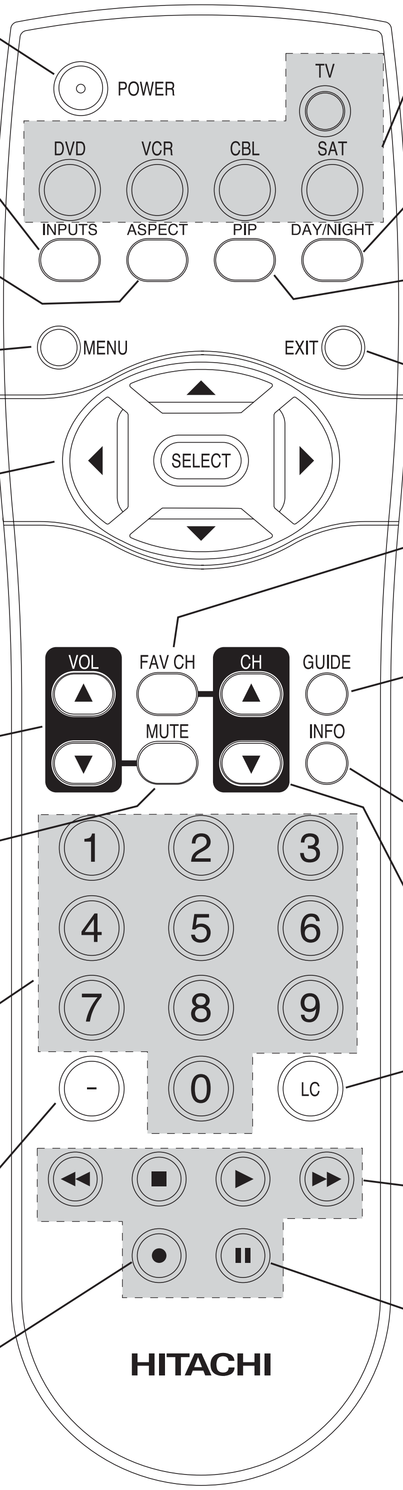

INPUT 5
AUDIO
S-VIDEO
VIDEO
L/MONO
R
INPUT
OUTPUT
S-VHS
V
L
R
OUTPUT
S-VHS Video camera

NOTE: 1. Completely insert connection cord plugs when connecting to front panel jacks. If you do not, the played back picture may be abnormal.
2. If you have a S-VHS VCR, use the S-INPUT cable in place of the standard video cable.
3. If you have a mono VCR, insert the audio cable into the left audio jack of your TV.

TABLE OF CONTENTS

Quick Guide for the Remote Control

In addition to controlling all of the functions on your HITACHI Projection TV, the new remote control is designed to operate different types of devices, such as, DVD Players, CBL (Cable Boxes), set-top-boxes, satellite receivers, and VCRs. The remote control must be programmed to control the chosen device. Please see page on I/B for a complete description of all features and programming of the Remote Control.



POWER BUTTON (TV, CBL, VCR, DVD, SAT)
Turns the selected device on and off.

INPUTS BUTTON (TV)
Accesses the INPUTS menu system.

ASPECT BUTTON (TV)
Changes the aspect ratio while watching TV.

MENU BUTTON (CBL, DVD, SAT, TV)
Accesses the OSD menu system.

CURSOR/SELECT BUTTONS (TV, DVD, CBL, SAT)
The CURSOR buttons are used to navigate the cursor through the OSD and INPUTS menu systems, and the SELECT button is used to Select/Activate the highlighted menu item.

VOLUME BUTTONS (TV)
Adjusts the audio level of your TV.

MUTE BUTTON (TV)
Reduces the audio level to 50% if pressed once, and to complete mute if pressed twice. Press it a third time to restore audio level.

NUMERIC BUTTONS (TV, DVD, CBL, SAT, VCR)
Used to manually enter the TV channel, and used for numeric entry when navigating through the OSD menu system.

(-) BUTTON (TV, SAT)
The (-) button is used when the remote is in Set-Top-Box (STB) mode or when the TV uses a digital input.

RECORD BUTTON (VCR)
Press twice (2 times) to record programs.

SOURCE ACCESS BUTTONS (TV, DVD, VCR, CBL, SAT)
Changes the mode of the Universal Remote Control to control the device selected.

DAY/NIGHT BUTTON (TV)
Select picture mode settings between DAY and NIGHT mode.

PIP BUTTON (TV)
Press to show and change the Picture-in-Picture mode.

EXIT BUTTON (TV, CBL, SAT)
Exits out of the OSD or INPUTS menu systems if their menu is displayed.

FAVORITE CHANNEL (FAV CH) button (TV)
Press to enter/access Favorite Channel (FAV) mode.

GUIDE BUTTON (SAT/STB, CBL,TV)
Accesses the channel guide of the TV or program guide of other devices.

INFO BUTTON (TV, CBL, SAT)
Displays various information on the screen.

CHANNEL BUTTONS (TV, CBL, SAT, VCR)
Changes the channel.

LAST CHANNEL (LC) BUTTON (TV, CBL, SAT)
Switches between the current and last channel viewed.

DVD/VCR CONTROL BUTTONS (DVD, VCR)
Controls the precode functions of your VCR and DVD.

PAUSE BUTTON (TV, VCR, DVD)
Press to show and change the Freeze mode of the TV or pause other devices.

LEGEND

TV – Television
CBL – Cable Box
STB – Set-Top-Box
VCR – Video Cassette Recorder/Player
DVD – Digital Video Disc Player
SAT – Satellite Receiver

*NOTE: **STB** precode is included in the **SAT** mode.*

DISPLAY PICTURE FORMAT

❺ **ASPECT button**
Press this button to quickly change the picture format ASPECT ratio. Depending on the input signal format received, the picture format ratio allows you to adjust the images through the following options.

4:3 STANDARD
Use this aspect mode to display conventional (4:3) images. Side panels (gray areas) are placed to the left and right of the image to preserve the original aspect ratio of the source. Note: Use this mode for only 15% of your total viewing time to prevent uneven aging of the phosphors. Phosphors in the lighted area of the picture will age more rapidly than the gray areas.

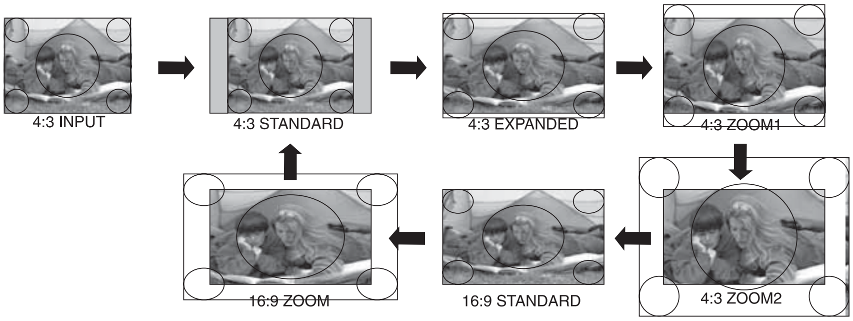
4:3 EXPANDED
Use this aspect mode to display conventional (4:3) sources by linearly increasing image expansion from the center towards the edges of the display area in order to fill it.

4:3 ZOOM1/ZOOM2
Use these aspect modes to zoom in on conventional (4:3) sources.

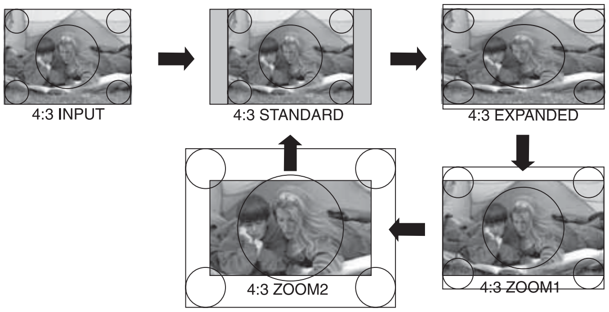
16:9 STANDARD
Use this aspect mode to display 16:9 sources like HDTV and DVD's preserving the original 16:9 aspect ratio.

16:9 ZOOM
Use this aspect to Zoom-in once while in 16:9 aspect.

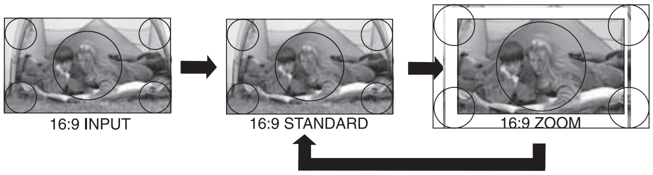
- **Antenna-Analog**
- **S-Video/Video Input (Auto Aspect: Off)**
- **HDMI-480i/480p Input (Auto Aspect: Off)**
- **Component-480i/480p Input (Auto Aspect: Off)**



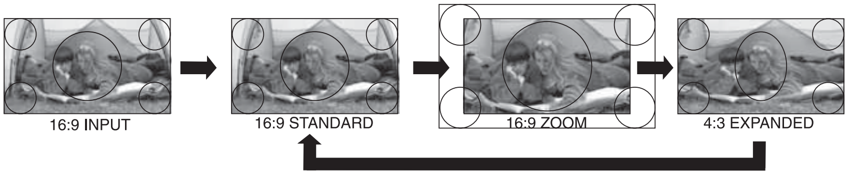
- **Antenna-Digital (4:3)**
- **S-Video/Video 4:3 Letter Input (Auto Aspect: On)**
- **HDMI-480i/480p 4:3/ Letter Input (Auto Aspect: On)**
- **Component-480i/480p 4:3 Letter Input (Auto Aspect: On)**



- **S-Video/Video 16:9 Input (Auto Aspect: On)**
- **HDMI-480i/480p 16:9 Input (Auto Aspect: On)**
- **Component-480i/480p 16:9 Input (Auto Aspect: On)**



- **Antenna-Digital (16:9)**
- **HDMI-720p/1080i Input**
- **Component-720p/1080i Input**

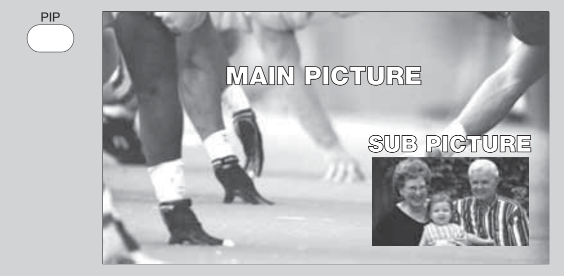


NOTE: 1. The Aspect Style setting you select for an ANT input will automatically be set for the other ANT input. However, all five video inputs have independent Aspect Style settings.
2. Vertical position adjustments are directly available when you choose 4:3 EXPANDED/ZOOM1/ZOOM2 or 16:9 ZOOM aspect style .

Picture-in-Picture (PIP)

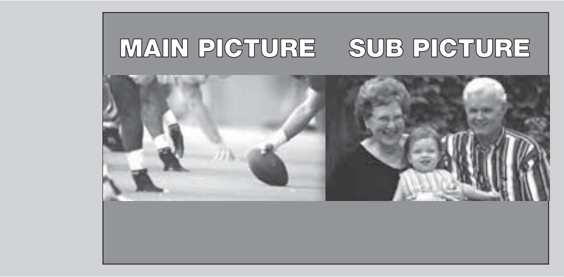
PIP Mode Picture-in-Picture

This feature is only available with a Digital 16:9, 720p and 1080i signal. To prevent a pattern burn, occasionally move the sub-picture using the **CURSOR** buttons.



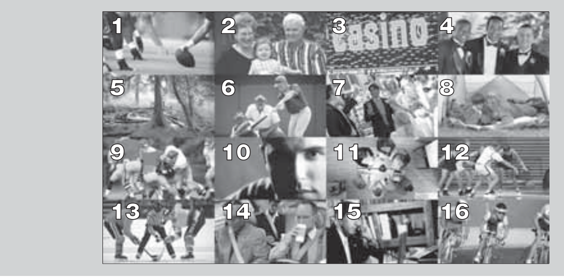
SPLIT Mode Picture-in-Picture

Split Mode PIP displays the main picture and sub-picture evenly on the screen.



SURF Mode Picture-in-Picture

Surf Mode PIP automatically scans all active channels (those set in memory) and displays them as PIP sub-pictures or Thumbnail channels. Press the **SELECT** button to stop on a chosen channel. Use the remote **CURSOR** buttons (◀, ▶, ▲, ▼) to navigate the Thumbnail. Press the **EXIT** button to enable your chosen channel and return to normal viewing.



NOTE: Press the SELECT button to stop the Surf mode or channel scan. Press the SELECT button again to resume Surf mode or channel scan.

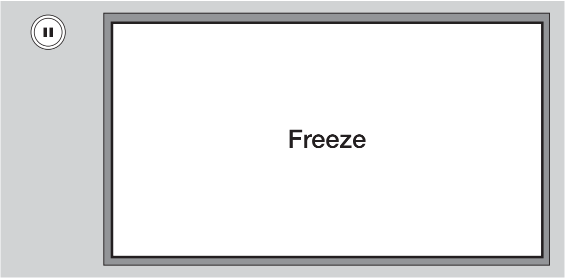
Picture-in-Picture (PIP) Modes

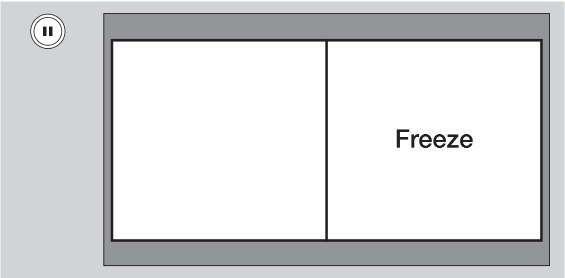
PIP Mode	Main/ Sub	Aspect	Digital Tuner 16:9	Digital Tuner 4:3	1080i/ 720p 16:9	480p/480i Analog Tuner Video/S-Video 16:9	480p/480i Analog Tuner Video/S-Video 4:3
POP	ANT Digital	16:9	—	—	Yes	Yes	Yes
	480p/480i	16:9	Yes[1]	Yes[1]	—	—	—
	ANT Analog S-Video/Video	4:3	Yes	Yes	—	—	—
PIP 4:3	ANT Digital	16:9	—	—	—	Yes[1]	Yes
	1080i/720p	16:9	—	Yes	—	—	—
	480p/480i S-Video/Video	16:9	—	Yes[2]	—	—	—
PIP 16:9	ANT Digital	16:9	—	—	Yes	Yes[2]	—
	1080i/720p	16:9	Yes	—	—	—	—
	480p/480i S-Video/Video	16:9	Yes[2]	—	—	—	—
SPLIT	ANT Digital	16:9	—	—	Yes	Yes	Yes
		4:3	—	—	Yes	Yes	Yes
	1080i/720p	16:9	Yes	Yes	—	—	—
	480p/480i	16:9	Yes	Yes	—	—	—
	ANT Analog S-Video/Video	4:3	Yes	Yes	—	—	—
SURF 12 PIX	—	—	Yes	Yes	—	—	Yes

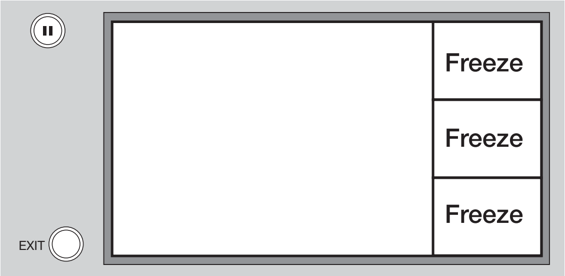
Yes[1] = Auto Aspect Off; Yes[2] = Auto Aspect On

❷ PAUSE button

If you wish to freeze the sub-picture, press the **PAUSE** button. This is convenient when trying to write down the address for a mail order company, recording statistics for a sporting event, etc. To return the picture to motion, press the **EXIT** button. Press the **PAUSE** button repeatedly to toggle between **FREEZE** modes (Main Freeze, SPLIT and STROBE).



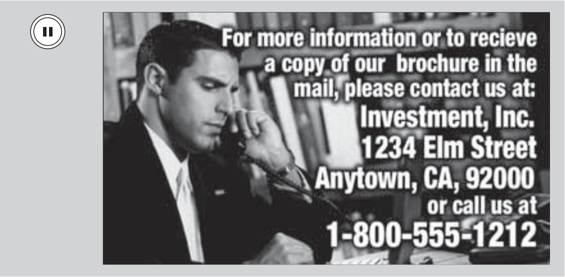




Picture-in-Picture (PIP)

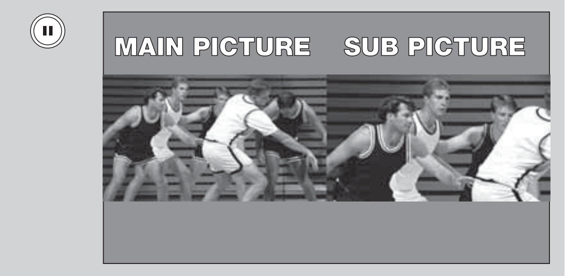
MAIN FREEZE

Press the **PAUSE** button to freeze one frame of the picture you are currently viewing and the frozen frame will show in the Main Picture. Press the **EXIT** button to return to normal viewing. This feature is useful for freezing a picture frame with addresses.


For more information or to recieve
a copy of our brochure in the
mail, please contact us at:
Investment, Inc.
1234 Elm Street
Anytown, CA, 92000
or call us at
1-800-555-1212

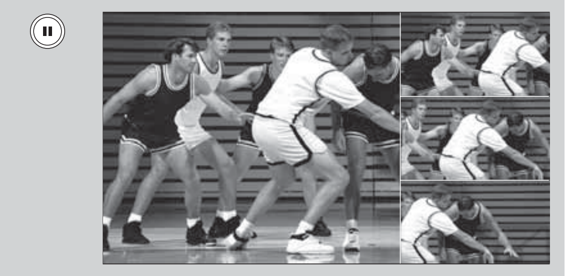
SPLIT FREEZE

Press the **PAUSE** button to freeze the picture you are currently viewing (only the right sub-picture will freeze). Press the **EXIT** button to return to normal viewing.


MAIN PICTURE
SUB PICTURE

STROBE FREEZE

Press the **PAUSE** button to freeze three frames of the picture you are currently viewing (only the 3 sub-pictures will freeze). Press the **EXIT** button to return to normal viewing. This feature is useful for viewing a moving picture that has many details, for example, a close play in a sporting event or a golf swing.



*NOTE: 1. The default **FREEZE** mode is the MAIN freeze followed by the **SPLIT** freeze and then the **STROBE** freeze. The last Freeze mode you selected before you pressed the **EXIT** button will be the one that comes up after pressing the **PAUSE** button again.*

2. Each freeze frame is delayed about 0.1 (1/10) second.

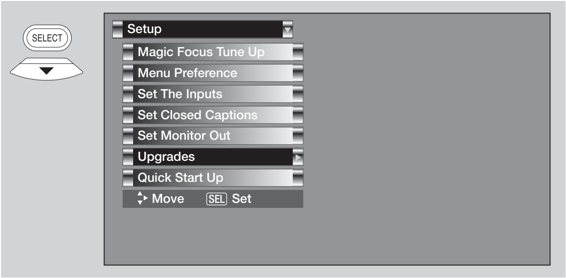
New Software upgrade process

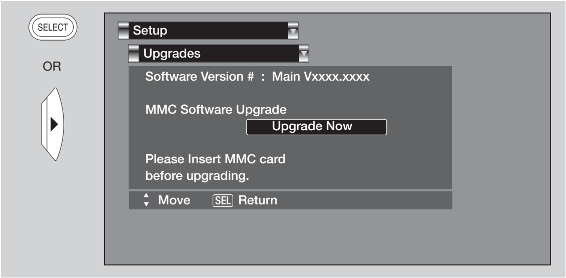
Upgrades
It shows software information and easy upgrade procedure. This function allows the TV software to be upgraded by using a flash card **(MMC CARD).** If a future software upgrade is required for your TV, **HITACHI** will notify and provide you with a flash card. In order to receive written notification and the flash card, please complete and return the warranty card.

1. Insert **MMC CARD**
2. Press the **CURSOR** buttons ▲ or ▼ to highlight **UPGRADE NOW**.
3. Press the **SELECT** button to select and start upgrading.
4. Unplug the power cord when the upgrade is complete.

NOTE 1: Any power interruption during the upgrade process will cancel the upgrade. When this happens, repeat the upgrade procedure.

NOTE 2: If there is a problem to start the software upgrade ; please make a FACTORY RESET so the TV can make the upgrade or check the the MMC card it may also be damage.


SELECT
Setup
Magic Focus Tune Up
Menu Preference
Set The Inputs
Set Closed Captions
Set Monitor Out
Upgrades
Quick Start Up
Move
SEL Set


SELECT
OR
Setup
Upgrades

Software Version # : Main Vxxxx.xxxx

MMC Software Upgrade

Upgrade Now

Please Insert MMC card before upgrading.

Move
SEL Return

SERVICE ADJUSTMENTS

TO GO TO AN ADJUSTMENT, CLICK ON ITS HEADING BELOW

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***IMPORTANT**
For many of the above adjustments, it is necessary to have an HDTV (1080i or 720P) signal generator, SDTV (480P) signal generator, as well as the usual NTSC (480i) signal generator.
Hitachi recognizes that few companies offer HDTV or SDTV signal generators and that the cost of these generators is sometimes prohibitive. For this reason, we suggest the use of a set-top-box for HDTV and SDTV adjustments. Usually, there is a switch on the set-top-box which enables it to output HDTV (1080i or 720P) or SDTV (480P) signals even with no input. In this case, the sync is automatically detected by the TV (at the Y-P_BP_R Inputs on the rear panel).

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ADJUSTMENT PROCEDURE START-UP

The 51F710A, 57F710A and 65F710A PTV sets pass through adjustment procedures during the assembly process. These adjustments must be done to assure the best performance of the PTV set for the consumer.

Also, after servicing, these same adjustments must be done. Most of the adjustments are made by the I_2C bus by changing data in the Adjustment mode menu.

On pages 61-90 shows the complete parameter list with a brief description, signal format, the adjustment range and the initial data.

1.1 HOW TO GET TO ADJUSTMENT MODE

Chassis adjustment mode can be access by pressing the R/C keys **MENU + MENU + MENU + 8 + SELECT** to enter adjustment mode. For some parameters the only way to see them is by selecting the parameter number than pressed SELECT in order to see it; then DATA can be change if other parameter needs to change then press ▼ key then repeat the same procedure.

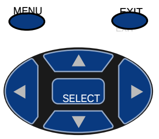
SERVICE
SUB BRIGHT
WHITE BAL HIGH ☐
WHITE BAL MED ☐
WHITE BAL STD ☐
WHITE BAL B/W ☐
H POSITION **
V POSITION **
FACT RESET

Other way to access this mode is by use JIG R/C code: (9C Hex). To escape from Adjustment Mode press “INPUT” key on Side panel or EXIT key of R/C to exit service adjustment mode.

1.2 CHANGING DATA AND SELECTING ADJUSTMENT CODE

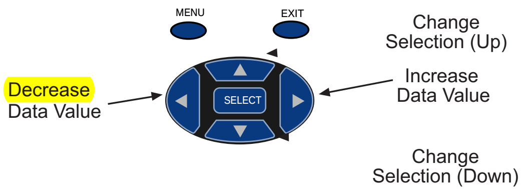
When the PDP set is in adjustment mode, the cursor ◄, ►, ▲, ▼ and MENU keys of the remote control or front panel may be used as the adjustment keys.

A. Use any Hitachi remote control when making an adjustment.
▲, ▼ keys are used for selecting adjustment item.

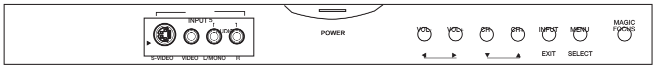


◄, ► keys are used for changing data values.
MENU key is used to advance through the adjustment mode menus and pages.

Remote Control Buttons



Control Panel Buttons



B. To make a selection, use the NUMBER pad on the PTV R/C ; example : select SEINE press 69 then SELECT the DATA shown is "EB" ; if this DATA needs to be change press the ◄, ►, keys to modify, when finish press SELECT key to store the new DATA value.
normal condition.

C. After finishing the necessary adjustment press the R/C EXIT key or EXIT key on the side panel.
Adjustment mode is released and PTV set returns to normal condition.

2 MEMORY INITIALIZE

2.1 MEMORY INITIALIZE OPERATION

NOTE: The execution of this function returns the adjustment codes to the preset values, therefore, **adjustment data will be lost**.

Procedure

(1) Enter Adjustment mode by the method described in sub-items 1.1 and 1.2 from item 1 (“Adjustment procedure start up”).
(2) Get to the second page of Adjust Mode by pressing remote control “Menu” key once, or with either the R/C or front panel ▲, ▼ cursor keys several times.
(3) Select MEMORY INIT adjust code.
(4) Activate MEMORY INIT by pressing ► cursor key for more than 3 seconds.
(5) Check the following process for initialization operation.

Process of Memory Initialize operation.

A screen will be colored **blue** when MEMORY INIT start.
A screen will be colored **green** when MEMORY INIT finishes normally.
A screen will be colored **black** when MEMORY INIT finishes abnormally.

(6) Do not unplug from AC outlet until this operation is complete and do not perform any key operation either, after this operation each factory setting and all adjust mode data should reset to delivery settings automatically.
(7) After Memory Initialize, it should be unplug AC cord. Unplug and plug AC cord and then all settings and data

(8) When PTV turns ON , it will tune CH03 this is the complete operation of Memory Initialize process.

CH 3

2.0 FINAL ADJUSTMENT ORDER FOR SERVICE

ORDER	ADJUSTMENT ITEM	ASPECT MODE	SIGNAL	DCU DATA
1	CUT OFF	16:9 Standard	NTSC Signal	
2	PREFOCUS	16:9 Standard	Crosshatch	
3	DCU PHASE DATA SETTING	16:9 Standard	NTSC Signal-DCU	
4	HORIZONTAL POSITION ADJUSTMENT (COARSE)	16:9 Standard	Circle Pattern	
5	RASTER TILT	16:9 Standard	NTSC Signal-DCU	CLEAR
6	BEAM ALIGNMENT	16:9 Standard	Crosshatch	CLEAR
7	RASTER POSITION	16:9 Standard	Circle Pattern -DCU	CLEAR
8	VERTICAL SIZE ADJUSTMENT	16:9 Standard	NTSC Signal-DCU	CLEAR
9	HORIZONTAL SIZE ADJUSTMEMT	16:9 Standard	NTSC Signal-DCU	CLEAR
10	BEAM FORM	4:3 Standard	Crosshatch	
11	LENS FOCUS ADJUSTMENT	16:9 Standard	Crosshatch **1080i circle pattern**	
12	STATIC FOCUS ADJUSTMENT	16:9 Standard	Crosshatch **1080i circle pattern**	
13	CONVERGENCE ADJUSTMENT BY Remote Control	16:9 Standard	NTSC Signal-DCU	
14	BLUE DEFOCUS	16:9 Standard	Crosshatch	
15	WHITE BALANCE ADJUSTMENT	16:9 Standard	White Raster	
16	SUB BRIGHTNESS ADJUSTMENT	16:9 Standard	7 step gray scale	
17	HORIZONTAL POSITION ADJUSTMENT	16:9 Standard	Circle Pattern	
18	MAGIC FOCUS INITIALIZE	16:9 Standard	NTSC Signal-DCU	

Do not use Crosshatch for convergence
Adjustment if the signal is NTSC progressive mode

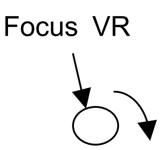
PRE HEAT RUN CONDITION

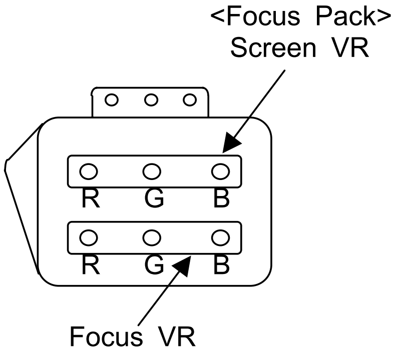
PRESET EACH VR LOCATION AS FOLLOWS:

BEFORE PRE HEAT-RUN.

(1) SCREEN VR ON FOCUS PACK.
Cut off adjustment should be coarse adjusted

(2) FOCUS VR ON FOCUS PACK.
<PRE SET> clockwise fully.





*PRE HEAT RUN TIME
More than 30 min.
If Current cannot be applied this spec, Pre Heat Run should be applied as long as possible .

BACK TO ADJUSTMENTS

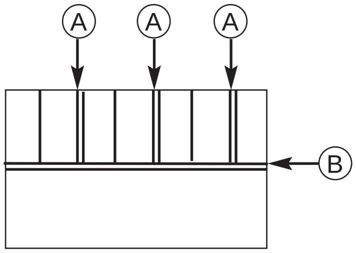
1.3 Comb filter operation check

Adjustment preparation

(1) Receive the color bar signal at the regular tuning point.
(2) Set the CONTRAST control to MAX and the other controls to center.

Adjustment procedure

(1) Check line dots condition at border of each color A, B as follows.



Check Ⓐ and Ⓑ line dots.

3D Y/C
Dots
Ⓐ None
Ⓑ None

1.4 Video Settings Check

1.4.1 Color Temperature Control Check

Adjustment preparation

(1) Receive the white raster signal.
(2) Set the video controls to normal conditions.

Adjustment procedure

(1) Select the Video mode using the ▲▼ buttons and press Select button.
(2) Select Color Temperature option using the ▲▼ buttons and press Select button.
(3) Select MEDIUM using ◀▶ buttons and Picture will turn reddish slightly.
(4) Select STANDARD using ◀▶ buttons and Picture will turn more reddish.
(5) Select Black & White using ◀▶ buttons and Picture will turn more and more reddish.
(6) Select HIGH using ◀▶ buttons and Picture will turn bluish.

⚠ **Important:** High Voltage adjustment should NOT be adjusted in field. This is adjusted at factory using precise loads and should NOT be readjusted.

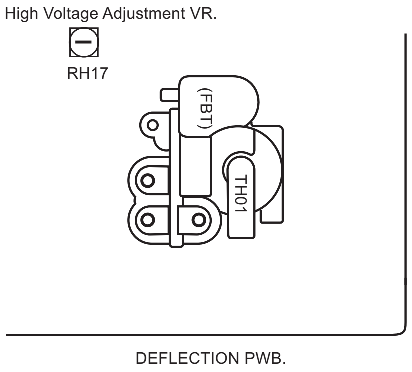
1.5 High Voltage Adjustment (should NOT be readjusted in field).

Adjustment preparation

(1) Connect High Voltage meter to FBT High Voltage output. Connect GND of High Voltage meter to CPT GND or FBT GND.
(2) Check that High Voltage adjustment VR (RH17) is set to mechanical center. (located behind FBT on DEFLECTION PWB).
(3) Receive circle pattern signal.
(4) VIDEO control should be reset.

Adjustment procedure

(1) Adjust High Voltage to following spec. by turning VR RH17 slowly. ADJ. SPEC = 31.7KV±0.2kV.
(2) After adjustment, fix VR RH17 with Silicone glue (KE40RTV).



2. FINAL ASSEMBLY ADJUSTMENT

2.1 Cut Off Adjustment

Adjustment Preparation:
1. Allow 20 minutes pre-heat run.
2. Set video conditions to factory presets.

Adjustment Procedure:
1. Access the I2C Adjustment Mode
1.1 Press the following buttons on the remote, in sequence: MENU, MENU, 8, SELECT.
2. Select SERVICE from adjustment menu by pressing the ▶ button on the remote. This will collapse the vertical deflection.
3. Turn all screen (G2) controls to the full counter-clockwise position.

BACK TO ADJUSTMENTS

4. Bring up each screen G2 control, one at a time, until that color is just barely visible. (Also, adjust the focus control for each color to obtain optimum focus.)

5. After all colors are finished, press the ◀ button on the remote to un-collapse the vertical, and return to normal.

NOTE: Never power off the TV while in the Service position of the I2C Adjustment Mode (vertical collapsed) as CRT damage may result.

2.2 Digital Convergence (DC) Phase Data Setting

Adjustment preparation

(1) Cut off adjustment should be finished.
(2) Set video conditions to factory preset.
(3) R/C must be in DCAM mode (see page 47).

Adjustment procedure

(1) Receive any NTSC signal.
(2) Push “SERVICE ONLY” SW (SC01) on SIGNAL PWB. (Enter to DC ADJ. mode).
(3) Press [FAV CH] key on R/C. (Green cross hatch is displayed).
Then push EXIT key on R/C. (Character pattern is displayed. This is the PHASE setting mode).
(4) Set PH-H phase data as shown below by using [4] and [6] key on R/C.
(5) Set PH-V phase data as shown below by using [2] and [5] key on R/C.
(6) Set CR-H phase data as shown below by using CURSOR PAD ◀ and ▶ key on R/C.
(7) Set CR-V phase data as shown below by using CURSOR PAD ▲ and ▼ key on R/C.
(8) Push [FAV CH] key on R/C to exit from the PHASE mode.
(9) Press ASPECT key 2 times on R/C to write the phase data to memory.
(10) When Green dots are displayed, push [MUTE] key to return to DC ADJ. mode.
(11) Push “SERVICE ONLY” SW to return to RF or VIDEO mode.

Normal Mode

PHASE MODE: N

PH-H : EC
PH-V: 07
CR-H: 31
CR-V: 14

2.3 Horizontal Position Adjustment (Coarse)

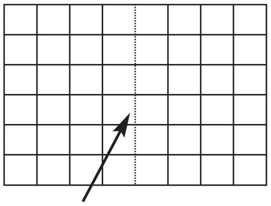
Adjustment preparation

(1) DC PHASE DATA SETTING should be finished.

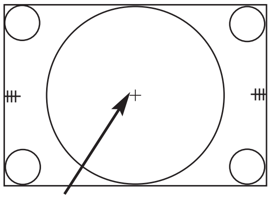
Adjustment procedure

(1) Receive circle pattern.
(2) Push SERVICE ONLY switch to display DC crosshatch. Mark the DC crosshatch center position using your finger tip.
(3) Push SERVICE ONLY switch again to exit from the DC crosshatch.
(4) Go to I^{2}C ADJ. mode.
(5) Choose H. POSI item by using up/down cursor key. Adjust horizontal position to match the circle center to DC crosshatch center (marked by your finger tip).
(6) Exit from I^{2}C menu.

DC crosshatch



ATSC or NTSC Circle pattern



Remark The “SERVICE ONLY” switch located on the SIGNAL PWB (SC01).

1080i 16:9 STANDARD

(7) Receive any 1080i Signal (fH=33.75KHz) circle pattern signal (Input to component video terminal).
(8) Repeat steps (2)~(5).
(9) Press SELECT key, then H. POS H will appear. It means HD mode is activated.
(10) Exit from I^{2}C menu.

2.4 Raster Tilt adjustment (Deflection yoke)

Adjustment preparation

(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set CONTRAST to MAX, other controls to CENTER.
(4) The lens focus and horizontal position adjustment should have been coarse adjusted.
(5) The electrical focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the “SERVICE ONLY” switch and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

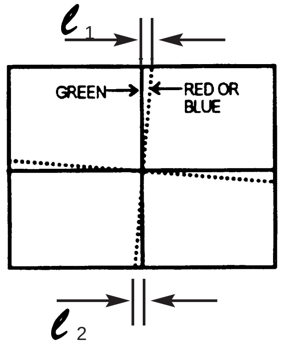
Adjustment procedure

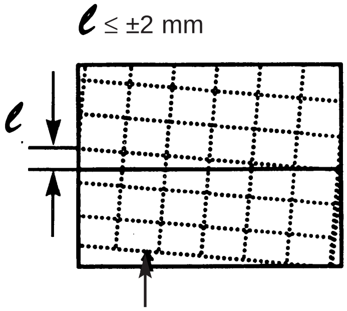
(1) Short-circuit 2p EH (TS) sub-mini connectors on Red and Blue CPT P.W.B.s to project only the Green beam.
(2) Turn the G deflection yoke and adjust the vertical raster inclination.
(3) Then, remove the shorted wire on the 2p EH(TS) sub-mini connectors on the R or B CPT PWB and project red or blue light and green light together on screen.

BACK TO ADJUSTMENTS

(4) Turn the deflection yoke of R or B and set so that the inclination of R or B light with respect to the green light is as shown below on the top and bottom sides.

(5) After raster inclination adjustment, the DY screw should be screwed to 10-14kg-cm torque.





CROSSHATCH (GREEN)

$\ell_1, \ell_2 \leq \pm 2$mm

Notes: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again, on DEF./CONV. PWB.

(2) To restore old RAM data, turn TV off and on.

2.5 Beam alignment

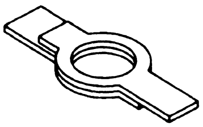
Adjustment preparation

1. Adjust at least 30 minutes after turning on power switch.
2. Raster tilt should be completed. Raster position, horizontal and vertical size, and optical focus adjustment should be coarse adjusted.
3. Set video conditions to factory preset.
4. Receive cross-hatch signal.

Adjustment procedure

(1) Green (G) tube beam alignment adjustment. Short-circuit TS (2p EH) subminiature connector plug pins of Red (R) and Blue (B) on the CPT boards and project only Green (G) light or you may cover the R and B lens.

(2) Put Green (G) tube beam alignment magnet to the cancel state as shown below.



(3) Turn the Green (G) electrical focus (Focus Pack) counterclockwise all the way and make sure of position of cross-hatch center on screen. (Halo state.)

(4) Turn the Green (G) electrical focus (Focus Pack) clockwise all the way. (Blooming state.)

(5) Turn two magnets forming alignment magnet in any desired direction and move cross-hatch center to position found in (3).

(6) If image position does not shift when Green (G) static focus (Focus Pack) is turned. Green (G) beam alignment has been completed.

(7) If image position shifts when Green (G) static focus (Focus Pack) is turned, repeat (2)-(6).

(8) Conduct beam alignment for red (R) and Blue (B) focus: Focus Pack UFPK.

(9) Upon completion of adjustment, fix beam alignment magnets with white paint.

2.6 Raster position adjustment

Adjustment preparation

1. The set can face east or west.
2. Input the single cross test signal.
3. Set video conditions to factory preset.
4. The electrical focus should have been coarse adjusted.
5. The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the DEF./CONV. PWB and then press the power button.
6. Start adjustment 20 minutes or more after TV is turned on.

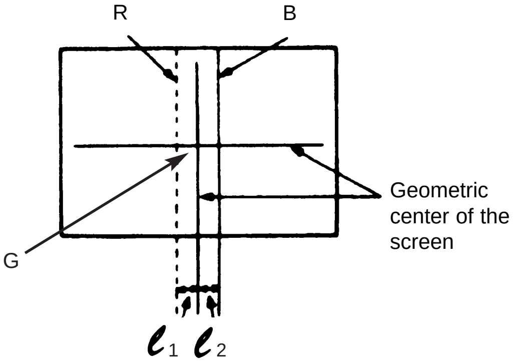
Adjustment procedure

(1) Turn the centering magnets for red, green, and blue to satisfy the condition below. The red and blue horizontal lines should match with green.

	ℓ_1 (RED)	ℓ_2 (BLUE)
51", 57", 65"	20	25

Tolerance: ± 2mm

Units = millimeters
25.4mm = 1in.



(2) Upon completion of adjustment, fix centering magnets with white paint.

NOTES: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again.

(2) To restore old RAM data, turn TV off and on.

BACK TO ADJUSTMENTS

2.7 Beam form adjustment

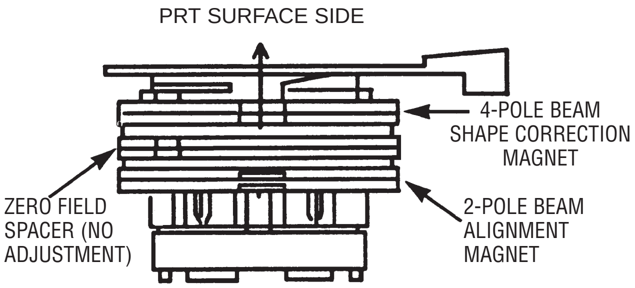
Adjustment preparation

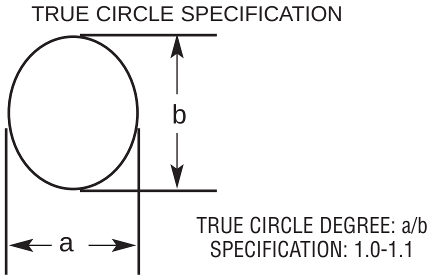
(1) Raster Position should have been completed.
(2) The raster tilt and centering should have been completed.
(3) Set video conditions to factory preset.
(4) Input the dot signal.
(5) Set Aspect to 4:3 Standard Mode.

Adjustment procedure

(1) Green PRT beam shape adjustment. Short-circuit TS (2p EH) sub-mini connectors on Red and Blue CPT P.W.B.s to project only the Green beam.
(2) Turn the green static focus VR, on the Focus Pack, fully clockwise. (Blooming)

(3) Make the dot at the screen center a true circle using the 4-pole magnet as shown below.
(4) Also adjust the Red and Blue PRT beam shapes according to the steps (1) to (3).
(5) After the adjustment has been completed, return R, G and B static VRs to the just focus point.
(6) After the BEAM FORM is completed, fix the BEAM FORM magnet with white paint.


PRT SURFACE SIDE
4-POLE BEAM SHAPE CORRECTION MAGNET
ZERO FIELD SPACER (NO ADJUSTMENT)
2-POLE BEAM ALIGNMENT MAGNET


TRUE CIRCLE SPECIFICATION
b
a
TRUE CIRCLE DEGREE: a/b
SPECIFICATION: 1.0-1.1

2.8 HORIZONTAL SIZE ADJUSTMENT ADJUSTMENT

Adjustment preparation

(1) Receive any NTSC signal.
(2) VIDEO control should be set Factory Preset condition.
(3) BEAM FORM adjustment should be finished.
(4) The Convergence should not be corrected.

Adjustment procedure

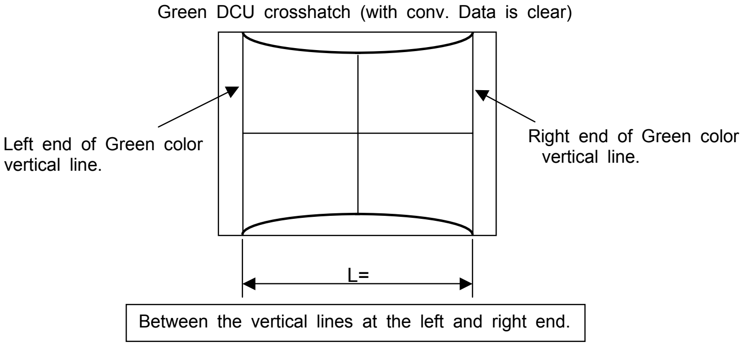
(1) Press Service Only button on the SIGNAL PWB then press the [MUTE] key on R/C at the same time. Uncorrected crosshatch is displayed.

(2) Adjust H size as follows , using R711 (Horizontal Size VR).

(3) After adjustment press the "SERVICE ONLY" SW to exit from the Digital Convergence crosshatch.

ℓ	H. Size Specification
51”	1070
57”	1195
65”	1365

Tolerance:+/-5mm unit : mm


Green DCU crosshatch (with conv. Data is clear)
Left end of Green color vertical line.
Right end of Green color vertical line.
L=
Between the vertical lines at the left and right end.

2.9 VERTICAL SIZE ADJUSTMENT

Adjustment preparation

(1) Receive any NTSC signal.
(2) VIDEO control should be set Factory Preset condition.
(3) Horizontal Size adjustment should be finished.
(4) The Convergence should not be corrected.

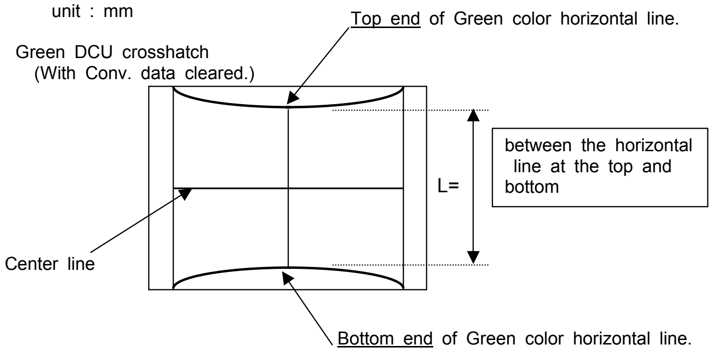
Adjustment procedure

(1) Press Service Only button on the SIGNAL PWB then press the [MUTE] key on R/C at the same time. Uncorrected crosshatch is displayed.
(2) Adjust V size as follows , using R607 (Vertical Size VR).

(3) After adjustment press the "SERVICE ONLY" SW to exit from the Digital Convergence crosshatch.

ℓ	V. Size Specification
51”	560
57”	625
65”	710

Tolerance:+/-5mm
unit : mm


Top end of Green color horizontal line.
Green DCU crosshatch (With Conv. data cleared.)
L=
between the horizontal line at the top and bottom
Center line
Bottom end of Green color horizontal line.

BACK TO ADJUSTMENTS

2.10 LENS FOCUS ADJUSTMENT

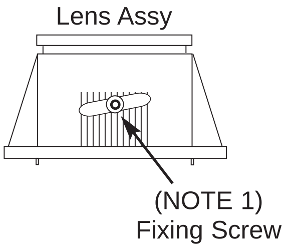
Adjustment preparation

(1) The orientation of PTV set is arbitrary, west, east, north and south.
(2) Centering DY inclination should have been adjusted.
(3) Static focus adjustment should have been coarse adjusted.
(4) Drive VR location adjustment should have been completed. (Red : 12 O'clock, Green : 1~2 O'clock).
(5) Receive the cross-hatch pattern signal.
(6) Refer to setup below.
CONTRAST : HALF of full scale.
BRIGHTNESS : minimum

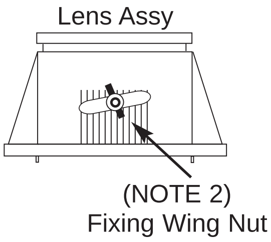
Adjustment procedure

(1) Loosen the fixing screw or wing nut on the lens cylinder so that the lens cylinder can be turned. (Be careful not to loosen too much). After completing steps (4), (5), (6) below, tighten the fixing screws or wing nuts for each lens with a torque of 1.18N.m (12Kgf cm) ~ 1.67N.m (17Kgf cm).

(Be careful the lens cylinder does not turn after having tightened the screw or wing nuts. If it is tightened too much, lens may tilt or screw may break.)

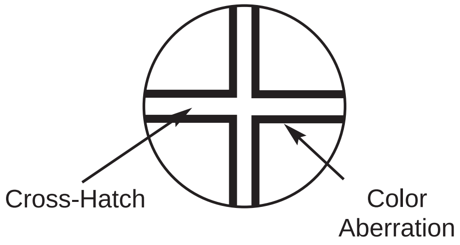


TYPE 1



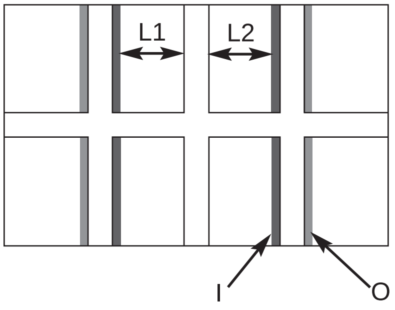
TYPE 2

(2) Apply covers to each color of R, G and B lenses. And project a single color on the screen and adjust in sequence. (The adjustment order of G, R and B is only an example.)
(3) If the lens adjustment knob is turned clockwise viewed from the front, the color Aberration change as follows.



	Change of Color Aberration	
	Short focus	Long focus
RED LENS	Orange	Scarlet
GREEN LENS	Blue	Red
BLUE LENS	Purple	Green

(4) In case of G lens. Set to the point where the chromatic aberration switches from blue to red. If the chromatic aberration appearing all over the screen is not the same, observe the vertical bright line and adjust lens focus as specified in table below. When the red chromatic aberration appearing at both sides of the bright line is not equal, observe the side with larger chromatic aberration when adjusting.



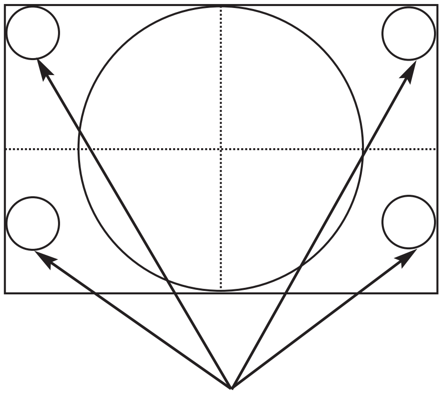
BACK TO ADJUSTMENTS

OPTICAL FOCUSING ADJUSTMENT GREEN

CHASSIS		DP55		
SCREEN SIZE		51”(HSB)	57”(HSB)	65”(D260)
L1 and L2 (PITCHES from CENTER)		3.0	3.0	2.0
COLOR ABERRATION	BETWEEN L1&L2	**	**	*
	I	** 2.0mm MAX	** 2.0mm MAX	** 2.0mm MAX
	O	** 2.5mm MAX	** 2.0mm MAX	** 2.0mm MAX

(NOTE) * Slightly reddish or no color
** Slightly bluish or no color

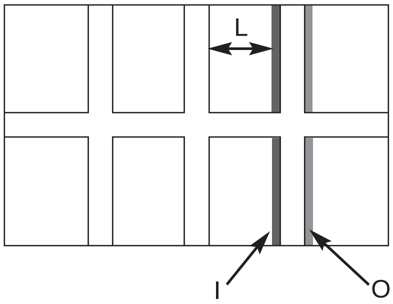
Change the signal to the circle pattern and fine adjust. Observe the corner part of the screen, especially observe number in the small circle when adjusting. If the focus performance at the screen center exceeds the lower limit, it is acceptable.



Small circle of circle pattern

NOTES: 1. Since the G light is very important for picture quality and performance, pay special attention in its adjustment.
2. Be careful not to touch the lens with your fingers when adjusting.

(5) In case of R lens. Set the position where the chromatic aberration changes from red to crimson. As shown below, observe the vertical bright line and adjust lens focus where the crimson or red chromatic aberration slightly appears inside, and crimson or red outside (reference value : 1~3mm) at the point specified in table below. Change the signal and fine-adjust the same way as the G lens.



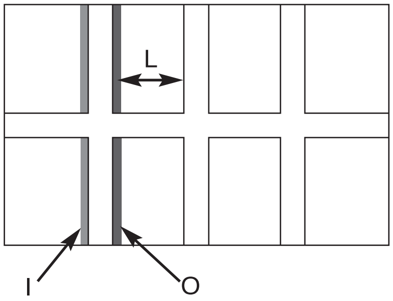
NOTE: Setting the center between Red and crimson is optimum.

OPTICAL FOCUSING ADJUSTMENT RED

CHASSIS		DP55		
SCREEN SIZE		51”(HSB)	57”(HSB)	65”(D260)
L1 and L2 (PITCHES from CENTER)		4.0	4.0	4.0
COLOR ABERRATION	BETWEEN L1&L2	**	**	*
	I	** 2.0mm MAX	** 2.0mm MAX	* 2.0mm MAX
	O	** 2.5mm MAX	** 2.0mm MAX	* 2.0mm MAX

(NOTE) * Slightly reddish or no color
** Slightly crimson or no color

(6) In case of B lens. Set the position where the chromatic aberration changes from purple to green. As shown below, observe the vertical bright line and adjust lens focus where the purple or green chromatic aberration slightly appears inside and purple or green outside (reference value : 1~3mm) at the point specified in table below. Change the signal and fine-adjust in the same way as the G lens.



NOTE: Setting to the center between purple and crimson is optimum.

OPTICAL FOCUSING ADJUSTMENT BLUE

CHASSIS		DP55		
SCREEN SIZE		51"(HSB)	57"(HSB)	65"(D260)
L1 and L2 (PITCHES from CENTER)		5.0	4.0	4.0
COLOR ABERRATION	BETWEEN L1&L2	*	*	*
	I	* 2.5mm MAX	* 4.0mm MAX	* 3.0mm MAX
	O	* 4.0mm MAX	* 4.0mm MAX	* 3.0mm MAX

(NOTE) * Slightly purplish or no color
** Slightly greenish or no color

(7) After all colors have been adjusted, display all colors with the cross-hatch pattern signal and check the focus performance.
(8) Then, select the circle pattern signal and check the focus performance of each color and all colors together.
(9) If the focus performance is not acceptable re-adjust step (1) to (6).

2.11 STATIC FOCUS ADJUSTMENT

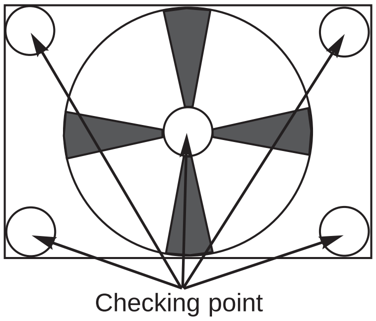
Adjustment preparation

(1) LENS FOCUS adjustment should be finished.
(2) Contrast : MAX
Brightness : Center.
(3) Receive the 480i/480p circle pattern signal & 1080i circle pattern.
(4) Apply covers to the lens of the colors you are not adjusting and project only one color on the screen.

Adjustment procedure

(1) Red and blue static focus adjustment. Adjust the static focus VR on Focus pack (UFPK) so that the center of circle pattern is the most clear. Check that the focus does not get conspicuously worse at the edges of the circle pattern signal or cross-hatch signal.
(2) Green static focus adjustment. Adjust the static focus VR on Focus pack (UFPK) (for green) so that the center of circle pattern is the most clear. Check that the focus does not get conspicuously worse at the checking point, the periphery of circle pattern cross-hatch signal.

NOTE: Checking point for the periphery of picture.



2.12 Digital convergence adjustment

Note: 1. If replacing a PRT, DY, etc. perform auto-digital convergence first. (Press front panel MAGIC FOCUS switch). This can eliminate the need for a complete digital convergence alignment.

2. To enter digital convergence adjustment mode without removing the front speaker grill, please do the following:

1) Press "Magic Focus" button on the front panel.

2) While "Magic Focus" is running, press Magic Focus button again to "Stop".

3) Press GUIDE button after "STOP" OSD appears on the screen to enter digital convergence mode.

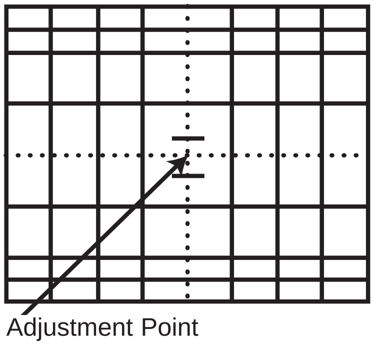
4) Proceed with convergence adjustment and save the data.

5) Do MAGIC FOCUS sensor initialization.

6) To exit, press POWER button on the front panel.

Adjustment preparation

(1) Receive an RF or video signal.
(2) Set controls to factory preset.
(3) Install jig screen on the set.
(4) Note the center of the video pattern displayed. This is necessary to match dotted lines (adjustment point viewed) and actual point that is adjusted and displayed by the video signal.
(5) Press the service only switch (on SIGNAL PWB). The pattern displayed is now the digital convergence mode.
(6) When performing a complete digital convergence adjustment CLEAR DATA in RAM. (With the TV set off, press and hold the service switch located on the SIGNAL P.W.B. and then press the POWER button).



BACK TO ADJUSTMENTS

2.12.1 MAGIC FOCUS Character Set-Up

This instruction should be applied when a new Signal Block or complete chassis is being replaced.

Adjustment Preparation

(1) Receive NTSC RF or video signal.
(2) With Power off, PRESS and HOLD the SERVICE ONLY button on SIGNAL PWB, then press the Power On/Off, when picture appears release SERVICE ONLY switch (Internal crosshatch is displayed without conv. correction data).
(3) Set R/C to DCAM mode (refer to page 45).
(4) Press the DAY/NIGHT button 2 times for ROM READ operation. Picture will appear with convergence correction data.

Adjustment Procedure

(1) Press ► key on R/C. (One additional line appears near the top and near the bottom.)
(2) Press ■ key, then ADJ. PARAMETER mode is displayed as following.

```
ADJ. PARAMETER
ADJ. DISP.:    0F
DEMO WAIT:   1F
INT. START:    13
V. SQUEEZE:  10
```

(3) Press CURSOR PAD ◄ or ► to change the ADJ. DISP. data.
(4) Press CURSOR PAD ▼ to access DC parameter. Change the data as shown on Table 1, DC Parameter.
(5) Press Aspect key 2 times to write changed data into EEPROM. (First press ADJ. PARAMETER/ROM WRITE? is displayed for alarm. 2nd press, writes data into EEPROM. Green dots appear after completion of operation.)
(6) Press MUTE key 3 times to exit from ADJ. PARAMETER mode.

TABLE 1. - Digital Convergence PARAMETER

Parameter	Normal
ADJ. DISP	0F
DEMO WAIT	1F
INT. START	13
V. SQUEEZE	10
INT STEP 1	02
INT STEP 2	06
INT BAR	2D
INT DELAY	01
MGF STEP 1	50
MGF STEP 2	06
MGF BAR	1B
MGF DELAY	01
SEL. STAT.	00
LINE WID	7F
ADD LINE	09
SENSOR CK	00
PORT 0	07
PORT 1	06
PORT 2	05
PORT 3	04
PORT 4	03
PORT 5	02
PORT 6	01
PORT 7	00
AD LEVEL	03
CENT. BAL	01
E. DISPLAY	00
ADJ. TIMS	60
AD LEVEL	05
AD NOISE	0A
OVER. LF-H	01
OVER. LF-V	00
OVER. RI-H	00
OVER. RI-V	00
PHASE MOT	50
H. BLK-RV	0A
H. BLK-GV	03
H. BLK-BV	09
H. BLK-H	20
PON DELAY	0F
IR-CODE	00
INITIAL 50	9E
MGF 50	96
CENTER 50	FE
STAT 50	FE
DYNA 50	9F

BACK TO ADJUSTMENTS

2.12.2 MAGIC FOCUS Pattern Set-Up

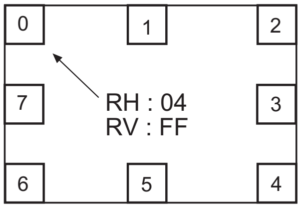
NOTE: (1) This instruction should be applied when a new Signal Block or complete chassis is being replaced.
(2) This instruction shows how to set up the pattern position for MAGIC FOCUS.

Adjustment Preparation

1. (1) Receive NTSC RF or video signal.
2. (2) With Power off, PRESS and HOLD the SERVICE ONLY button on SIGNAL PWB, then press the Power On/Off, when picture appears release SERVICE ONLY button (Internal crosshatch is displayed without conv. correction data).
3. (3) Set R/C to DCAM mode (refer to page 45).

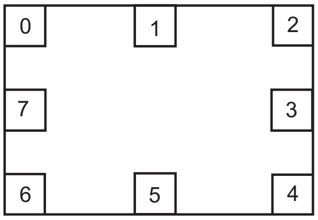
Adjustment Procedure

(1) Press ▶ key on R/C. (One addtional line appears near the top and near the bottom.)
(2) Press Forward key, then MAGIC FOCUS PATTERN mode is displayed as follows:



(3) Use [6] key on remote control to rotate the arrow. Arrow indicates each sensor position. (Upper left corner, middle top, upper right corner, right middle, in this order).
(4) Use the keys to switch color of pattern.
INFO : Green pattern
0 : Red pattern
INPUTS : Blue pattern
(5) Press CURSOR PAD ◀ or ▶ to change the data value to the horizontal direction. Press CURSOR PAD ▲ or ▼ to change the data value to the vertical direction.
(6) Set the data as shown below:

Pattern Position



Pattern: 51” & 57” (Sensor: 20mm)
Adj. Mode

	0	1	2	3	4	5	6	7
RH	04	00	fc	02	fc	00	04	fe
RV	ff	fe	01	00	fe	01	00	00
GH	04	00	fc	02	fc	00	04	fe
GV	ff	fe	ff	00	ff	01	00	00
BH	04	00	fc	02	fc	00	04	fe
BV	ff	fe	ff	00	00	01	ff	00

(7) Press ASPECT key 2 times to write the changed data in EEPROM. (First press, ROM WRITE ? 2nd press, writes data into EEPROM. Green dots appear after completion of operation.)
(8) Push POWER key (on control panel) to exit from PATTERN mode.

*** Explanation of "Conv. For Outside Signal" function**

a) Press "Service Only SW" on SIGNAL PWB, then display "Normal Crosshatch". (Fig.11)

b) Press [MENU] key on R/C, then display "Red + Green Crosshatch with Red Marker" or "Green Crosshatch with Green Marker" or "Blue + Green Crosshatch with Blue Marker". (Fig.12)

c) Press [MENU] key on R/C again, then display "Normal Crosshatch on Main Picture" (Fig.13)

d) Press [MENU] key on R/C again, then display "Cross Marker + Box Marker on Main Picture". (Fig.14)

e) Press [MENU] key on R/C again, then display "only Box Marker on Main Picture". (Fig.15)

f) Press [MENU] key on R/C again, then display "Normal Crosshatch" again. (Fig.11)

And repeat procedure 2) ~ 6) by each press [MENU] key on R/C.

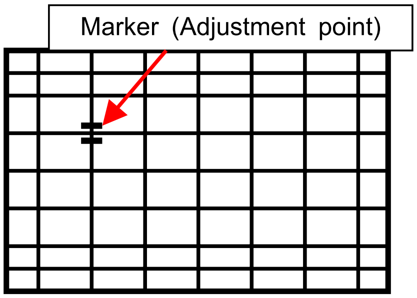


Fig. 11

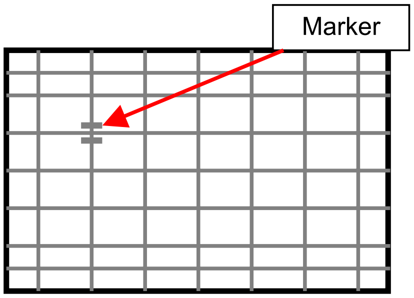


Fig. 12

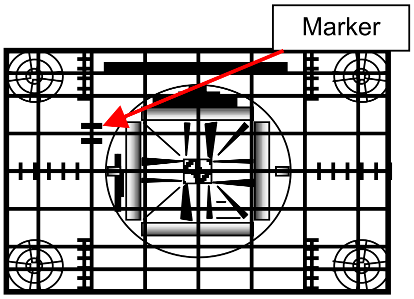


Fig. 13

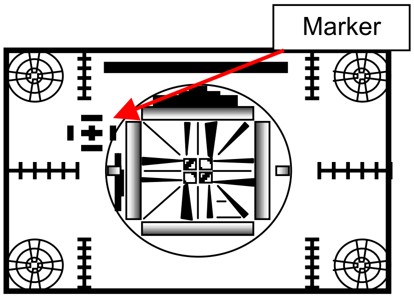


Fig. 14

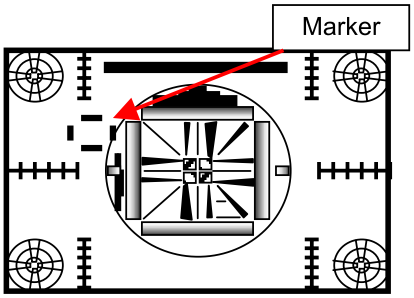


Fig. 15

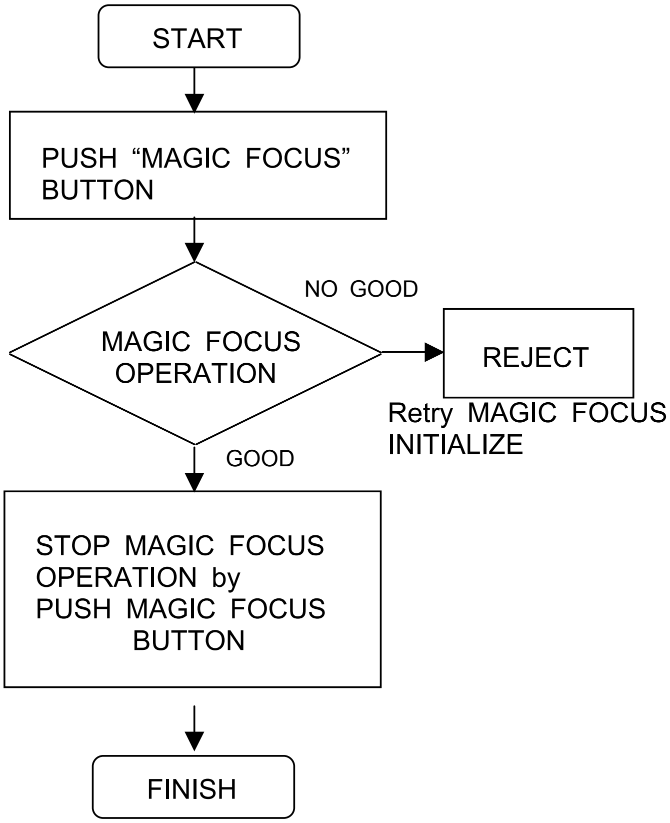
MAGIC FOCUS OPERATION CHECK

Adjustment preparation

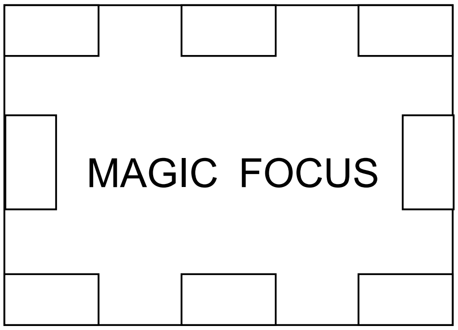
(1) MAGIC FOCUS INITIALIZE OPERATION should be completed.
(2) Receive any NTSC signal.

Adjustment procedure

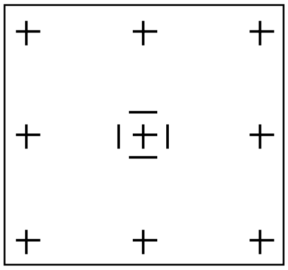
(1) OPERATION CHECK


START
PUSH “MAGIC FOCUS” BUTTON
MAGIC FOCUS OPERATION
NO GOOD
REJECT
Retry MAGIC FOCUS INITIALIZE
GOOD
STOP MAGIC FOCUS OPERATION by PUSH MAGIC FOCUS BUTTON
FINISH

MAGIS FOCUS OPERATION
*GOOD (Several windows)


MAGIC FOCUS

* NO GOOD (9 cross)



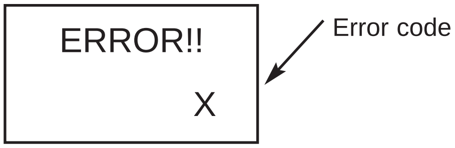
DP5X

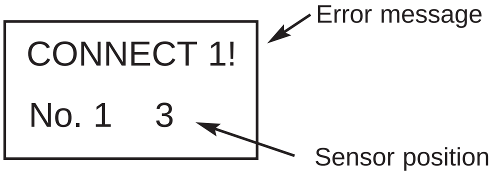
Note:
If there is an error, error code (green) appears for about 1 second in bottom right corner.
Refer to CONVERGENCE ERRORS next page .

Convergence Errors.

If an error message or code appears while performing MAGIC FOCUS or initialize (ASPECT , ■ key in DCU service mode) follow this confirmation and repair method.

1. Turn on power and receive any signal.
2. Press service switch on SIGNAL PWB.
3. Set R/C to DCAM mode (refer to page 45).
4. Press “DAY/NIGHT” then ■ key on remote control.
5. Error code will be displayed in bottom right corner of screen. If there is no error, an “INITIAL OK” message will appear on screen or green dots will also appear.





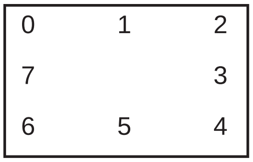
6. Follow repair table for errors.

DCU REPAIR TABLE

Error Code	Error Display Code	Countermeasure	Application	
			Initialize	Magic Focus
1	VF Error	Repiar Digital Convergence circuit	X	X
2 *2	Connect 1	1. Darken Outside Light 2. Placing of sensor 3. Is pattern hitting sensor 4. Check connection and solder bridge of sensor 5. Replace sensor 6. Replace sensor P.W.B. 7. Sensor Connector check 8. Repair Digital Convergence circuit. 9. Adjustment check (H/V size, centering)	X	–
3*2	A/D Level	Same as Error Code 2	X	X
4	Over Flow	1. Check the placement of sensor 2. Adjustment check (H/V size, centering) 3. Conv. amp. gain check *1 (check resistor values only)	X	X
5	Convergence	Same as Error Code 4	X	X
7	Operation	Same as Error Code 4	–	X
9	Connect 2	Same as Error Code 2	X	X
10	Noise	Input strong field signal Check the wiring of connector between sensor and Signal PWB	X	X
11	Sync	Input strong field signal Check the wiring of connector between sensor and Signal PWB	X	X

*1 -- RK 53, 54, 57, 58, 61, 62, 65, 66, 69, 70, 73 and 74 check these resistors.

*2 Sensor Position



0	1	2
7		3
6	5	4

(View from front side)

8 Sensors

Digital Convergence Repair Info. Check Adjustment Pattern

Confirm of appearance of DCU Crosshatch in DCU Adjustment Mode, by pushing of Service Only SW (SCOI).

Procedure

1) Push Service Only SW (SC01) on SIGNAL PWB.
2) If DCU Crosshatch (corrected almost well) is displayed, Status is OK.
3) DCU Crosshatch is not displayed, Uneven Crosshatch or No Correction Crosshatch is displayed, DCU circuit has any defects.

Counter Measure for Trouble

if DCU Crosshatch is not displayed (External Video Signal is continuously displayed), check next items.

1) Assembly Error of DCU uCOM (IS07), X'tal (XS01), Reset 1C (IS05), or other peripheral parts
2) Solder-Bridge of DCU uCOM (IS07) 7-13pin
3) Solder-Bridge of Reset 1C (IS05)
4) Solder-Bridge of PCJG connector
5) "Ys" signal line {from DCU LSI (IS06) 53pin to RGB processor (IX01) 2pin)
6) "Busy" signal line (from DCU uCOM (ISO?) 66pin to SUB uCOM (I001) 95pin)
7) "Reset" signal line (from Reset 1C (IS05) 4pin to DCU uCOM (IS07) 7pin)
8) +5V Power supply line (from PDT3 connector 10/11 pin to DCU uCOM (IS07))

If DCU Crosshatch is not displayed (External Video Signal is Muted), check next items.

1) Assembly Error of DCU LSI (IS06), +3.3V Regulator (IS04), or other peripheral parts
2) Solder-Bridge of DCU uCOM (IS07) 36, 72-73pin
3) Solder-Bridge of DCU LSI (IS06) 5, 7,14, 22-25, 29-31, 33-35, 38-39, 48-50pin
4) "Ys" signal line (from DCU LSI (IS06) 53pin to RGB processor (IX01) 2pin)
5) "DCU OSD" signal line (from DCU LSI (ISOG) 48/49/50pin to RGB processor (IX01) 24/25/26pin
6) "Busy" signal line (from DCU uCOM (IS07) 66pin to SUB uCOM (I001) 95pin)
7) "H.BLK/V.BLK" signal line (from PDT2 connector 7/11 pin to DCU LSI (IS06) 33/35pin
8) PLL of DCU LSI (RS65/67, CS32)
9) +5V Power supply line (from PDT3 connector 10/11 pin to DCU LSI (IS06))
10) +3.3V Power supply line (from +3.3V Regulator (IS04) 4pin to DCU LSI (IS06))

If Position Shifted Crosshatch (as show Figure 2) is displayed, check next items.

1) Check DCU Phase Data

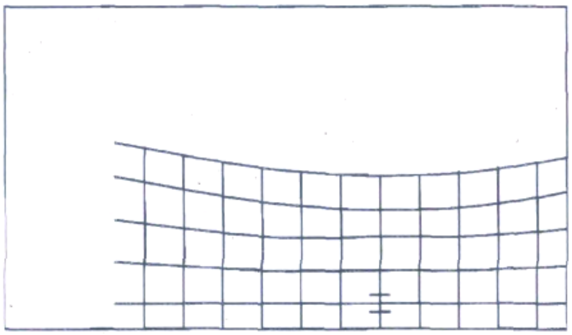


Figure 2 Example Image of Position Shifted DCU Crosshatch

If uneven Crosshatch (as show Figure *3)* is displayed, check next items.

1) Assembly Error of DCU uCOM (IS07), EEPROM (IS01, ISOS**[1]), DCU LSI (IS06), DAC (IT01), PDT4 connector, or other peripheral parts
2) Solder-Bridge of DCU uCOM (IS07) 1-2,17-24, 27-32, 42-49, 51-55, 75-80pin
3) Solder-Bridge of EEPROM (IS01, IS03[r1])
4) Solder-Bridge of DCU LSI (IS06) 5, 7, 14, 20-25, 33-35, 38-39, 48-50, 52, 60, 64, 79, 84, 88, 103,110-111,118-125,128-142pin
5) Solder-Bridge of DAC (IT01) 1-5, 8-9, 12-13,16-17, 32-33, 36-37, 40-41, 46~8pin
6) Solder-Bridge of PDT4 connector
7) "H.BLK/V.BLK" signal line (from PDT2 connector 7/11 pin to DCU LSI (IS06) 33/35pin
8) PLL of DCU LSI (RS65/67, CS32)'
9) +5V Power supply line (from PDT3 connector 10/11 pin to DCU LSI (IS06))
10) +3.3V Power supply line (from +3.3V Regulator (IS04) 4pin to DCU LSI (IS06))

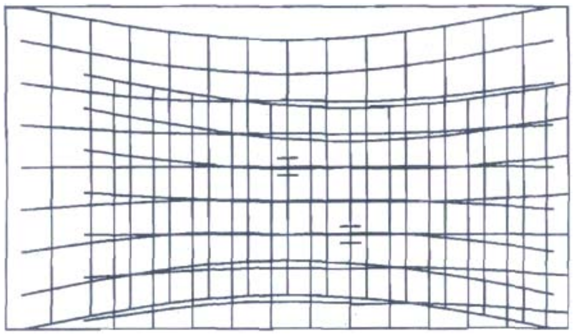


Figure 3 Example Image of uneven DCU Crosshatch

Note)

*1 : IS03 (EEPROM) is only use by DP5M chassis.

If No Correction Crosshatch (All channels, as show Figure 4) is displayed, check next items.

1) Assembly Error of Reset 1C (IS05), DCU LSI (IS06), DAC (IT01), or other peripheral parts
2) Solder-Bridge of DCU LSI (IS06) 5, 7,14, 20-25, 27-29, 33-35, 44,52, 88pin
3) Solder-Bridge of DAC (IT01) 4-5, 45pin
4) "Mute" signal line (from QC17-C to DAC (IT01) 45pin)
5) +5V Power supply line (from PDT3 connector 10/11 pin to DAC (IT01))

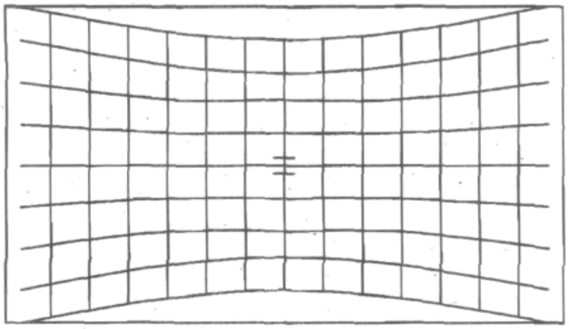


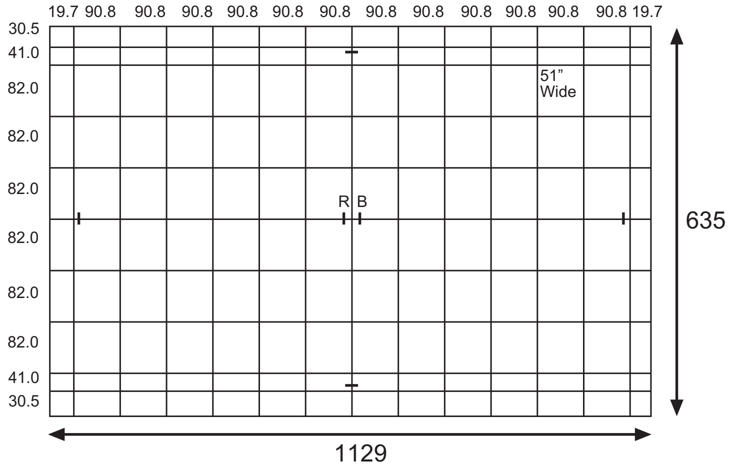
Figure 4 Example Image of No Correction DCU Crosshatch

If No Correction Crosshatch (Only one or two channels) is displayed, check next items.

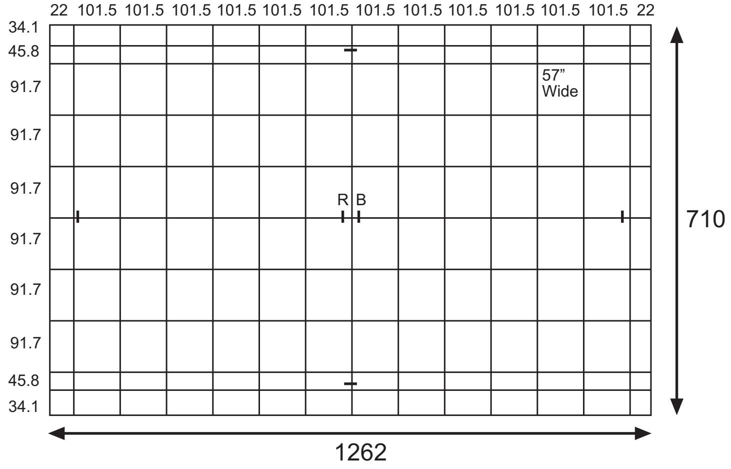
1) Assembly Error of DCU LSI (IS06), DAC (IT01), Op-Amp (IT02-07), PDT4 connector, or other peripheral parts
2) Solder-Bridge of DCU LSI (IS06) 60, 64, 79, 84, 98,103pin
3) Solder-Bridge of DAC (IT01) 1-3, 8-9,12-13,16-17, 32-33, 36~37, 40-41, 46~8pin
4) Solder-Bridge of Op-Amp (IT02~07)
5) Solder-Bridge of PDT4 connector
6) "Correction Data (Digital)" signal line (from DCU LSI (IS06) 60, 64, 79, 84, 98, 103pin to DAC(IT01) 1-3, 46-48pin)
7) "Correction Data (Analog)" signal line (from DAC (IT01) 8/12/16/33/37/41 pin to PDT4 connector)
8) +5V Power supply line (from PDT3 connector 10/11 pin to Op-Amp (IT02-07))
9) -5V Power supply line (from PDT3 connector 5-6pin to Op-Amp (IT02-07))

2.12.3 Convergence Jig Screen Specifications

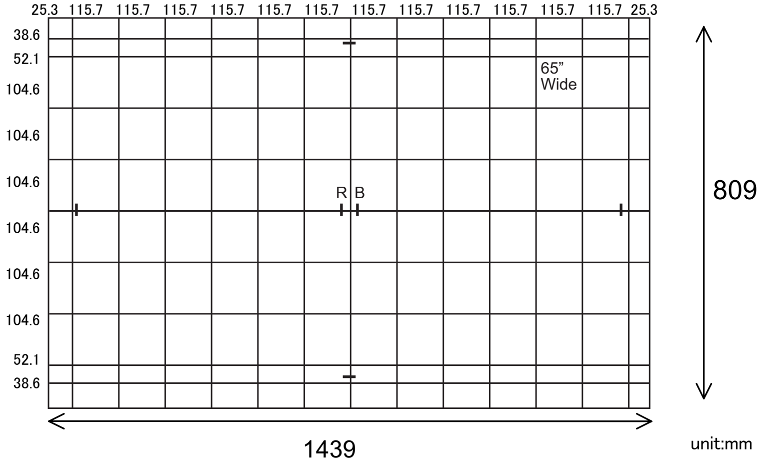
51F710A (Part Number H312272)


19.7 90.8 90.8 90.8 90.8 90.8 90.8 90.8 90.8 90.8 90.8 90.8 90.8 19.7
30.5
41.0
82.0
82.0
82.0
82.0
82.0
82.0
41.0
30.5
51”
Wide
R B
635
1129

57F710A (Part Number H312273)


22 101.5 101.5 101.5 101.5 101.5 101.5 101.5 101.5 101.5 101.5 101.5 101.5 22
34.1
45.8
91.7
91.7
91.7
91.7
91.7
91.7
45.8
34.1
57”
Wide
R B
710
1262

65F710A (Part # H312274)


25.3 115.7 115.7 115.7 115.7 115.7 115.7 115.7 115.7 115.7 115.7 115.7 115.7 25.3
38.6
52.1
104.6
104.6
104.6
104.6
104.6
104.6
52.1
38.6
65”
Wide
R B
809
1439
unit:mm

BACK TO ADJUSTMENTS

Note: If only minor adjustments to convergence are needed, the jig screen is not necessary. Use digital data stored in memory and one color as a reference (red, green, or blue). DO NOT CLEAR DATA and WRITE to ROM memory.

2.12.4 Raster position adjustment (minor)

Adjustment preparation

(1) Position adjustment - This will move an entire color. Use this adjustment to match colors at the center of the screen. (Active video center from external signal and physical screen center should now match from phase adjustment).

(2) Use the buttons below to switch color to adjust.
"INFO" - Green
"0" - Red
"INPUTS" - Blue

Adjustment procedure

(1) Press the ► button. Extra horizontal lines appear to confirm raster position mode.

(2) Use the thumb stick to adjust position.

(3) Press ► again to exit raster position mode.

Notes: (1) Other functions cannot be accessed when in raster position adjustment mode. Press ► and confirm extra horizontal lines disappear to exit raster position mode.

(2) Press MENU to remove all colors displayed.

2.12.5 Convergence point adjustment

Adjustment preparation

(1) Select color to adjust.
"INFO" - Green
"0" - Red
"INPUTS" - Blue

(2) Use 4, 6, 2, and 5 to move the cursor position (dotted lines).

(3) Use cursors to move the convergence point.

(4) Three adjustment modes are available:
    1. (3x3) Press "INFO" 5 times (only works when DCU is in uncorrected state)
    2. (7x5) Press "0" 5 times
    3. (13x9) Press "INPUTS" 5 times

For touch-up, only the (13x9) mode is necessary. This will adjust every cross-hatch intersection point on the screen.

For complete adjustment, start with (3x3) mode. This will adjust center point and eight edge points only, but will greatly reduce adjustment time. Then use (7x5) mode, and finally (13x9) mode to finish convergence.

If "S" distortion appears between cross-hatch lines repeat (7x5) mode to change calculation process while adjusting to remove distortion, then return to (13x9) mode to finish touch-up convergence.

Adjustment procedure

(1) Receive any NTSC signal.

(2) Start adjustment at the center of the screen.

(3) Continue adjustment at next closest position.

(4) Adjust center area first, ending with edge sections.

(5) Press GUIDE button to perform calculation operation. This process will take about 1 second and no picture will be seen at this time.

(6) After interpolation, check convergence again and repeat (1)-(5) if necessary.

(7) When convergence is acceptable, press ASPECT to write data to ROM memory. ROM WRITE? is displayed to alarm system that ROM will be overwritten with new data. Press the ASPECT button again to write displayed data to ROM.

(8) DATA WRITE TO ROM will take approximately 4 seconds and no picture will be displayed.

(9) Green dots will be displayed when operation is completed.

(10) Push MUTE to return to convergence pattern , then confirm again convergence if is acceptable.

(11) Press ASPECT (ROM WRITE) mode, then press ■ to initialize sensor data positions.

Notes: (1) Display only green for easier adjustment and match to jig screen. Press "MENU", THEN PRESS "INFO".

(2) Perform interpolation and data write to ROM after green adjustment. Once green has been confirmed to match jig screen, the jig screen can be removed. Do not readjust the green color after jig screen has been removed. This is now your reference color.

(3) Display green and red only and match red to green.

(4) Display all colors and match blue to green and red. Touch-up red color if necessary.

(5) Existing DATA in ROM can be read by pressing the DAY/NIGHT button 2 times. This data can be used after replacing a component (CRT, DY, etc.) Where complete convergence adjustment is not necessary, be careful not to overwrite this data.
DO NOT write cleared RAM data into ROM or a complete convergence adjustment will be necessary. Remember to try MAGIC FOCUS before starting convergence adjustment to minimize adjustment time.

(6) To confirm and fine tune the convergence at the edge of the screen, press the ■ button on the remote control while in the digital convergence adjustment mode (DCAM) for additional lines at the edge of the screen. Fine tune the edge convergence as necessary. To exit, press ■ again.

BACK TO ADJUSTMENTS

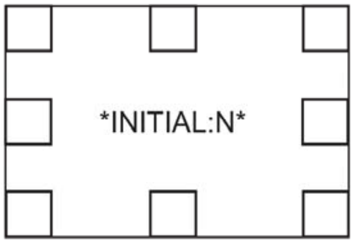
2.12.6 Magic Focus Initialize

Adjustment Preparation

(1) Receive any NTSC signal.
(2) Digital convergence adjustment should have been completed.
(3) Set is in DCU adjustment mode.
(4) Set R/C in DCAM mode.

Adjustment Procedure

(1) Press "ASPECT" and then ■ to initialize Magic Focus. The initialize operation starts and several windows appear during this operation. It takes about 30 seconds or less.
(2) When green dots appear, initialize operation is finished.
(3) Turn power OFF on TV set.



Initialization Operation

REMARKS

Another way to start the initialize operation:

(1) Using a programable R/C send the code: 509E hx to start initialization mode.
(2) When green dots appear, initalization operation is finished.

NOTE: If there is an error message, red dots or an error code, refer to page 39, CONVERGENCE ERRORS.

DIGITAL CONVERGENCE ADJUSTMENT MODE (DCAM)

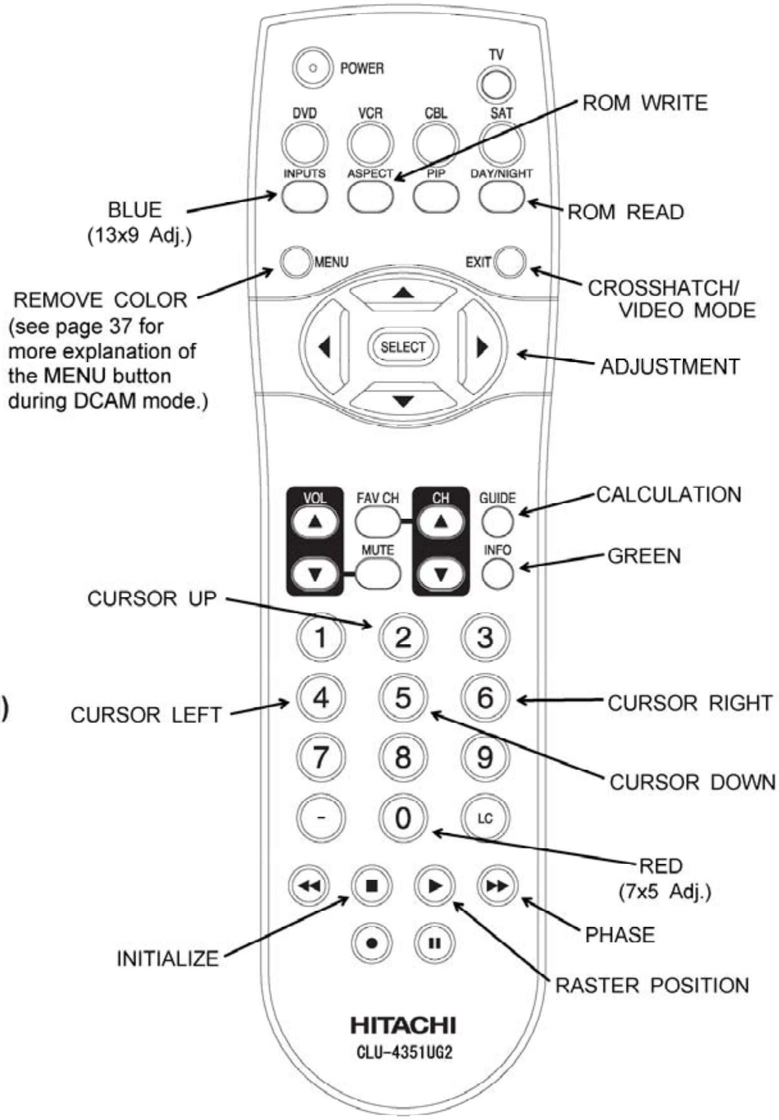
(1) HITACHI DCU Adjust Mode is intended for service use only. Customers should not be given access to this mode.
(2) To place the remote control into DCU Adjust Mode,
    a. Hold down the [TV] button,
    b. Hold down the [MENU] button,
    c. Hold down the [INFO] button,
    d. Hold down the [-] button,
    e. Release all buttons together.
    ~~f. If successfull, the TV led will blink three times.~~
(3) See the picture of R/C for DCU adjustment controls associated with this mode.
(4) To exit the DCU Adjust Mode,
    a. Hold down the [TV] button,
    b. Press the [0] button,
    c. Press the [1] button,
    d. Release the [TV] button.

Digital Convergence Remote Control (DP55)

When Convergence is adjusted by this R/C.
This R/C should be changed to DCU mode.

1. Going to DCU mode.
    (1) Hold down [TV] key.
    (2) Hold down [MENU] key.
    (3) Hold down [INFO] key.
    (4) Hold down [-] key.
    (5) Release all keys.

2. Going to NORMAL mode.
    (1) Hold down [TV] key.
    (2) Push [0] key.
    (3) Push [1] key.
    (4) Release [TV] key.


POWER
TV
DVD
VCR
CBL
SAT
INPUTS
ASPECT
PIP
DAY/NIGHT
MENU
EXIT
SELECT
VOL
FAV CH
CH
GUIDE
MUTE
INFO
1
2
3
4
5
6
7
8
9
-
0
LC
HITACHI
CLU-4351UG2
ROM WRITE
BLUE
(13x9 Adj.)
ROM READ
REMOVE COLOR
(see page 37 for more explanation of the MENU button during DCAM mode.)
CROSSHATCH/
VIDEO MODE
ADJUSTMENT
CALCULATION
GREEN
CURSOR UP
CURSOR LEFT
CURSOR RIGHT
CURSOR DOWN
RED
(7x5 Adj.)
PHASE
INITIALIZE
RASTER POSITION

Note:
(2) 3x3 Adjustment mode can be accessed only when DCU is in uncorrected state.

NOTE: If the R/C is left in DCAM mode, many TV options will not work. The only way to correct this is by following the method shown above to exit from DCAM mode; then the R/C will return to NORMAL mode.

BACK TO ADJUSTMENTS

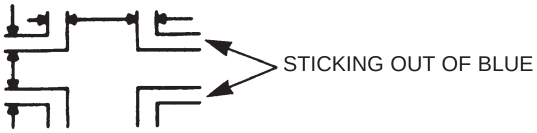
2.13 Blue Defocus adjustment

Adjustment Preparation

(1) Optical and electrical focus adjustment should have been completed.
(2) The convergence adjustment should have been completed.
(3) Set Video conditions to factory preset.
(4) Input the cross-hatch signal.

Adjustment procedure

(1) Turn the B Focus VR (Focus Pack) fully clockwise.
(2) Adjust sticking out level of blue to specification shown in table below, by turning the (B) FOCUS VR counter clockwise.



UNEVENNESS SPECIFICATION: ±1cd/m2

Defocus sticking out specification

Screen Size	Blue sticking out
51”	1.0mm
57”	1.0mm
65”	1.0mm

Condition: User controls are set to the initial set positions (for shipment)

Measuring point-Screen center.

2.14 White balance adjustment

(1) Screen adjustment
(2) High light white balance.
(3) Low light white balance.

I²C data for High light white balance

Green : G DRIVE (HIGH) 3F (initial data)(Adjustable)
Red : R DRIVE (HIGH) 3F (initial data)(Adjustable)

I²C data for Low light white balance

Green : G CUT OFF (HIGH) 7F (initial) (Fixed data)
Red : R CUT OFF (HIGH) 7F (initial) (Adj. data)
Blue : B CUT OFF (HIGH) 7F (initial) (Adj. data)

Adjustment Preparation

(1) Adjustment should start 20 min. or more after the TV power is turned ON.
(2) CUT OFF ADJ. should be finished.
(3) VIDEO control : Contrast is MAX., Others are center.
(4) Color temp. : HIGH
(5) Signal:
    * Hight Light white Balance Adj. White raster 0.715Vpp (w/o sync., termination incidence : 75ohm.) 100IRE
    * Low Light white balance ADJ. White raster 0.180Vpp (w/o sync., termination incidence : 75ohm.) 25 IRE (The brightness equal to 20cd/m² at screen center.
(6) BLUE defocus ADJ. should be finished.
(7) The vertical incident illumination on the screen should be 20 Lux. or less.
(8) Picture Format is 16:9 Standard Mode.
(9) Go into I²C service mode.

Table 1: White Balance Adjustment Signal

Screen Size		51”,57 " and 65”
High light	[IRE]	100
	[Vpp]	0.715
Low light	[IRE]	25.0
	[Vpp]	0.175

Table 1 shows amplitude of White raster (without sync, termination impedence: 75ohm).

Table 2: White Balance Adjustment Specification

Size	Highlight	Lowlight
51”	10800K±0MPCD (x=0.277 ± 0.004, y=0.284 ± 0.004)	10800K±0MPCD (x=0.277 ± 0.004, y=0.284 ± 0.004)
57”	10800K±0MPCD (x=0.277 ± 0.004, y=0.284 ± 0.004)	10800K±0MPCD (x=0.277 ± 0.004, y=0.284 ± 0.004)
65”	10800K±0MPCD (x=0.277 ± 0.004, y=0.284 ± 0.004)	10800K±0MPCD (x=0.277 ± 0.004, y=0.284 ± 0.004)

Adjustment Procedure

A. High Light W/B adjustment

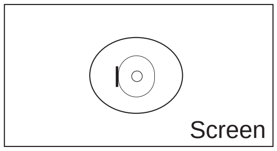
(1) Receive signal for High Light white balance ADJ.
(2) Adjust white balance at center of screen, using R DRV/ G DRV within I²C adjust mode (see Table 2).

B. Low Light W/B adjustment

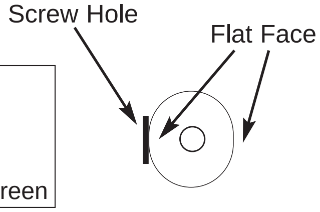
(1) Receive signal for Low Light white balance ADJ.
(2) Adjust white balance to center of screen, using R CUT OFF/G CUT OFF/B CUT OFF within I²C adjust mode. Do not touch screen VRs (see Table 2).
(3) Take Green color as a reference color, then adjust Low Light W/B by increasing other two colors CUT OFF data. Do not change GREEN CUT OFF data. CA-100 Probe should be set to a direction as shown below.

Repeat A & B two or three times, until no adjustment is needed (white balance tracking-GOOD). If W/B tracking is not good, set all data (Both DRV and CUT OFF) to inital data, and change reference color to different color.

Note: If Low Light adj. spec cannot be followed, apply previous adj. spec. (adjust by eye.)



Set probe to above direction.
(Screw hole side should
be on the left side)



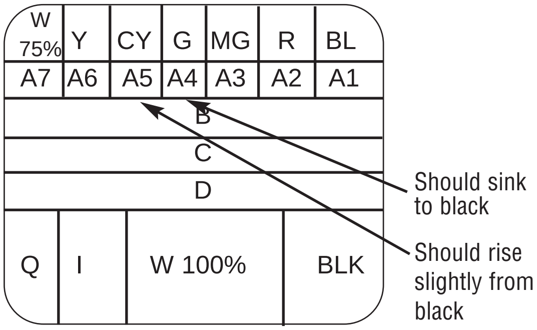
Top view of
CA-100 Probe

BACK TO ADJUSTMENTS

2.15 Sub brightness adjustment

Adjustment preparation

(1) Start adjustment after the power is turned ON for 20 minutes or more.
(2) Receive the color bar signal (7 step gray scale).
(3) The vertical incident illumination on the screen should be 20 lux or less. (Room should be dark).
(4) Picture Formats is 16:9 Standard Mode.

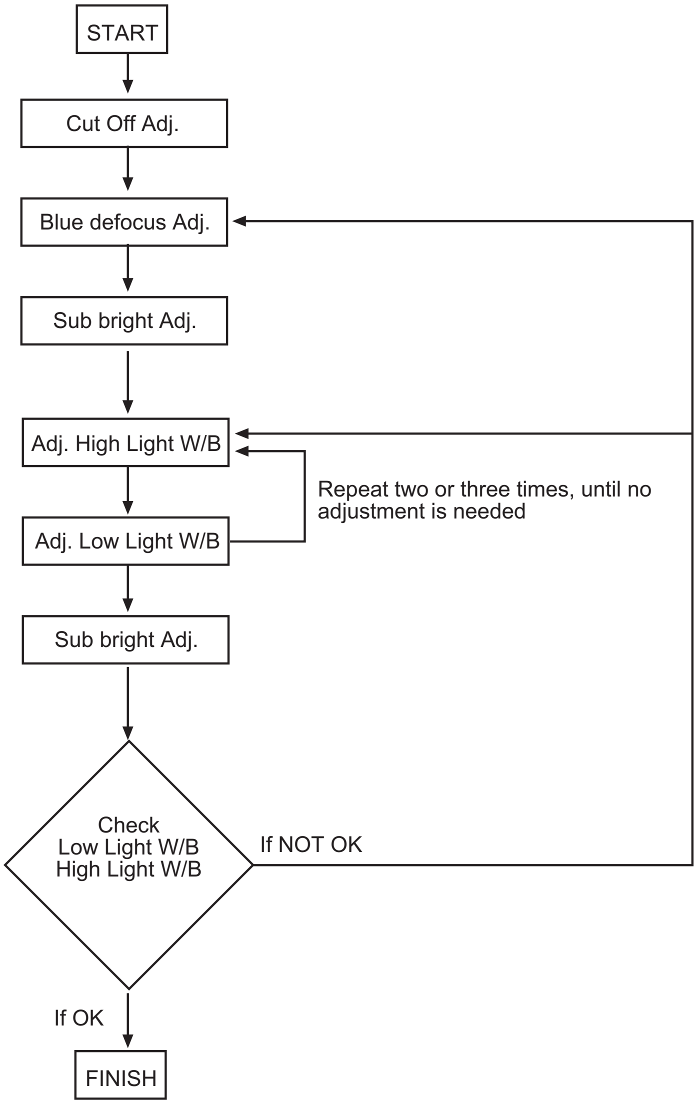

W
75%
Y
CY
G
MG
R
BL
A7
A6
A5
A4
A3
A2
A1
B
C
D
Q
I
W 100%
BLK
Should sink to black
Should rise slightly from black

Adjustment procedure

(1) Go to “Sub Brightness” adjustment in I^{2}C ADJUST mode (By press MENU+MENU+8+ SELECT on the Remote Control), using CURSOR ▲, ▼ and then CURSOR ▶.
(2) Then adjust “Sub Brightness” using CURSOR ◀, ▶ to increase or decrease the value, according to figure. (Visually adjust).
(3) After adjustment, press MENU button to exit I^{2}C ADJUST mode. (Data is stored in memory).

Note: When selecting SUB-BRIGHTNESS mode the microprocessor sets the CONTRAST and COLOR to MIN. automatically, but make sure that the other conditions are center.
Directly observe the screen by eye without using a mirror.

WHITE BALANCE ADJUSTMENT FLOW CHART

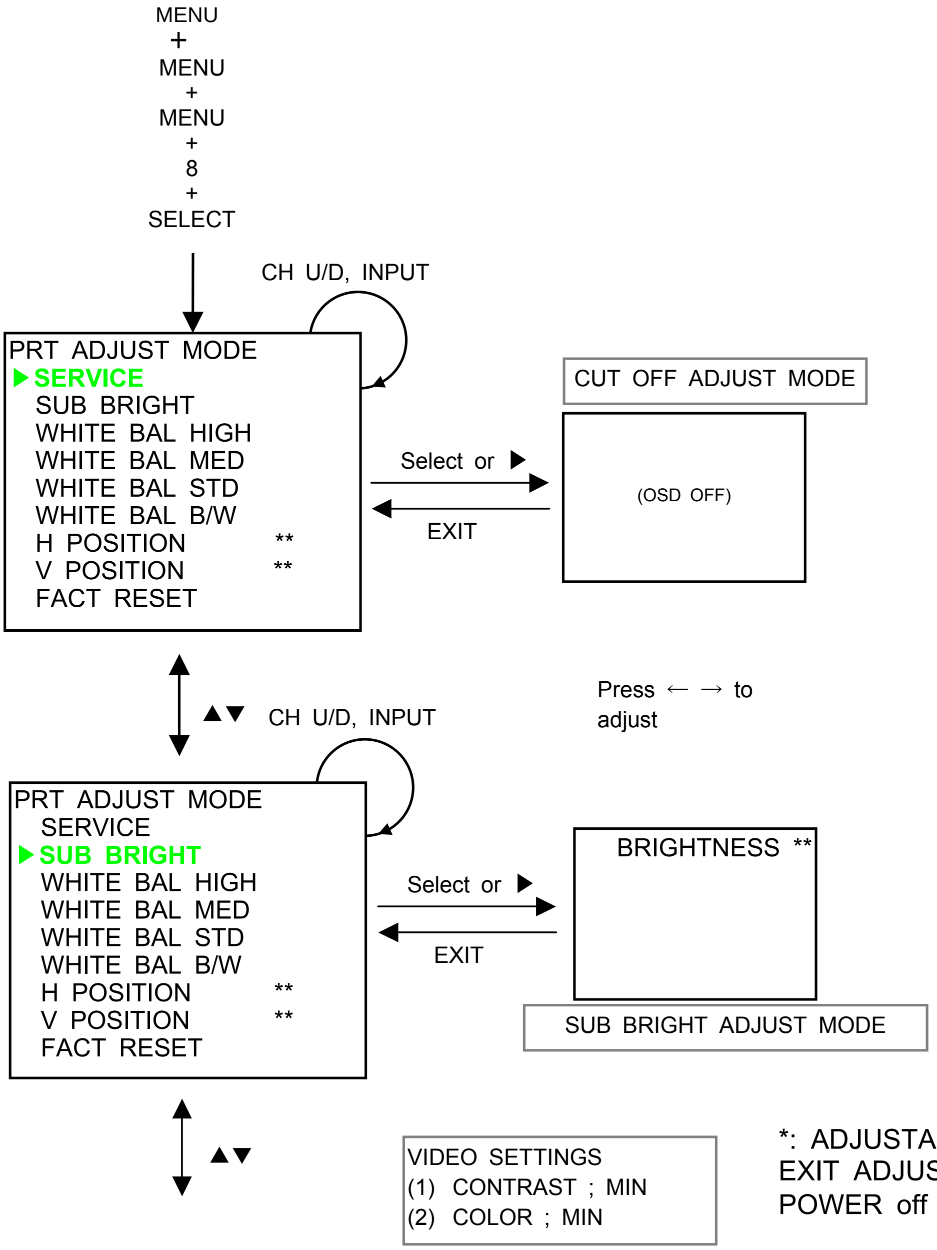

START
Cut Off Adj.
Blue defocus Adj.
Sub bright Adj.
Adj. High Light W/B
Adj. Low Light W/B
Repeat two or three times, until no adjustment is needed
Sub bright Adj.
Check
Low Light W/B
High Light W/B
If NOT OK
If OK
FINISH

BACK TO ADJUSTMENTS

2.16 Adjustment OSD Flowchart

(1) Enter Adjust Mode OSD :

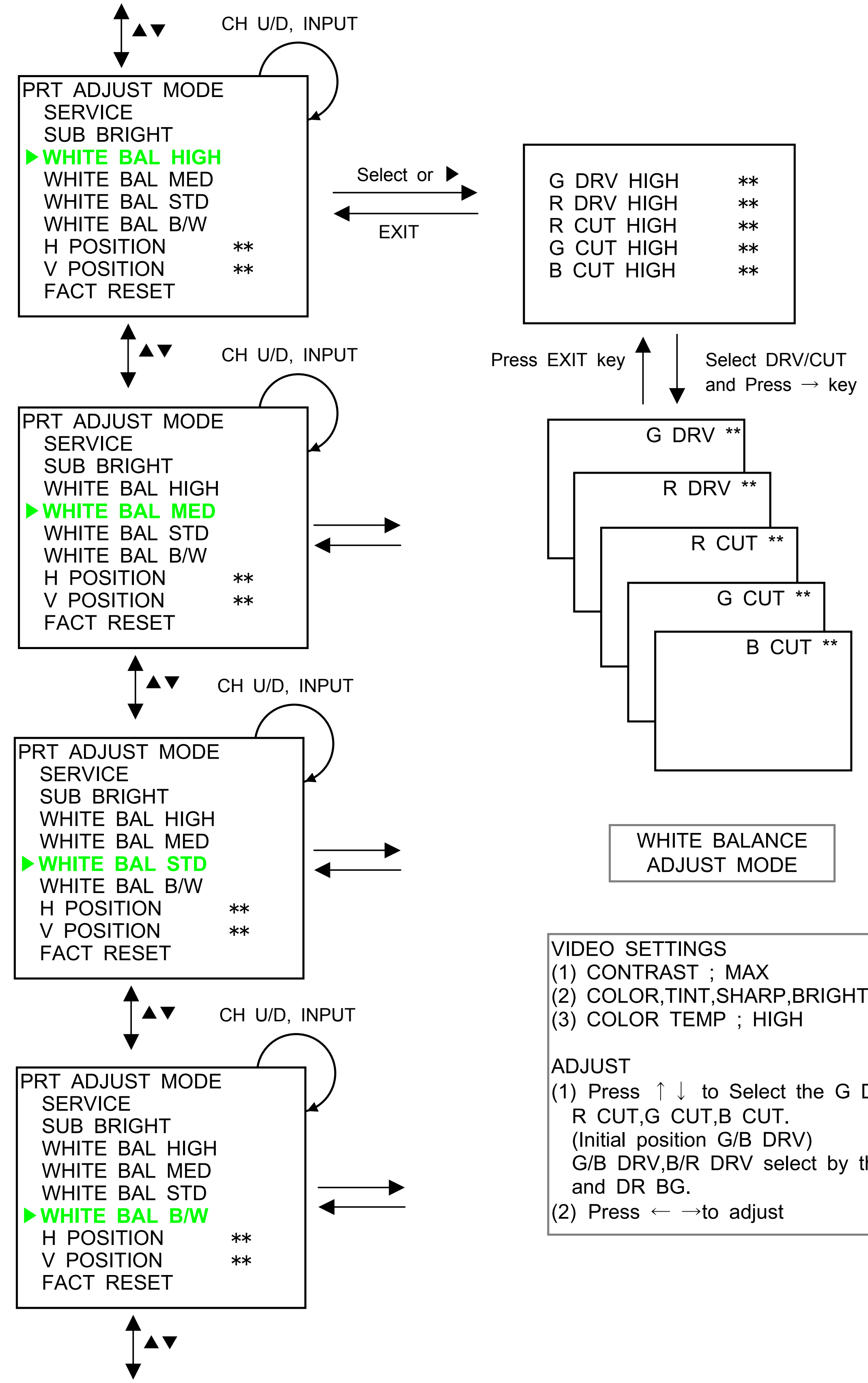
Press 〔MENU〕 + 〔MENU〕 + [MENU] + 〔8〕 + 〔SELECT〕 on the Remote Control.


MENU
+
MENU
+
MENU
+
8
+
SELECT
CH U/D, INPUT
PRT ADJUST MODE
▶ SERVICE
SUB BRIGHT
WHITE BAL HIGH
WHITE BAL MED
WHITE BAL STD
WHITE BAL B/W
H POSITION **
V POSITION **
FACT RESET
Select or ▶
EXIT
CUT OFF ADJUST MODE
(OSD OFF)
▲▼
CH U/D, INPUT
Press ← → to adjust
PRT ADJUST MODE
SERVICE
▶ SUB BRIGHT
WHITE BAL HIGH
WHITE BAL MED
WHITE BAL STD
WHITE BAL B/W
H POSITION **
V POSITION **
FACT RESET
Select or ▶
EXIT
BRIGHTNESS **
SUB BRIGHT ADJUST MODE
▲▼
VIDEO SETTINGS
(1) CONTRAST ; MIN
(2) COLOR ; MIN

*: ADJUSTABLE ITEM
EXIT ADJUST MODE
POWER off to exit from Adj mode

BACK TO ADJUSTMENTS

2.16 Adjustment OSD Flowchart (Cont.)

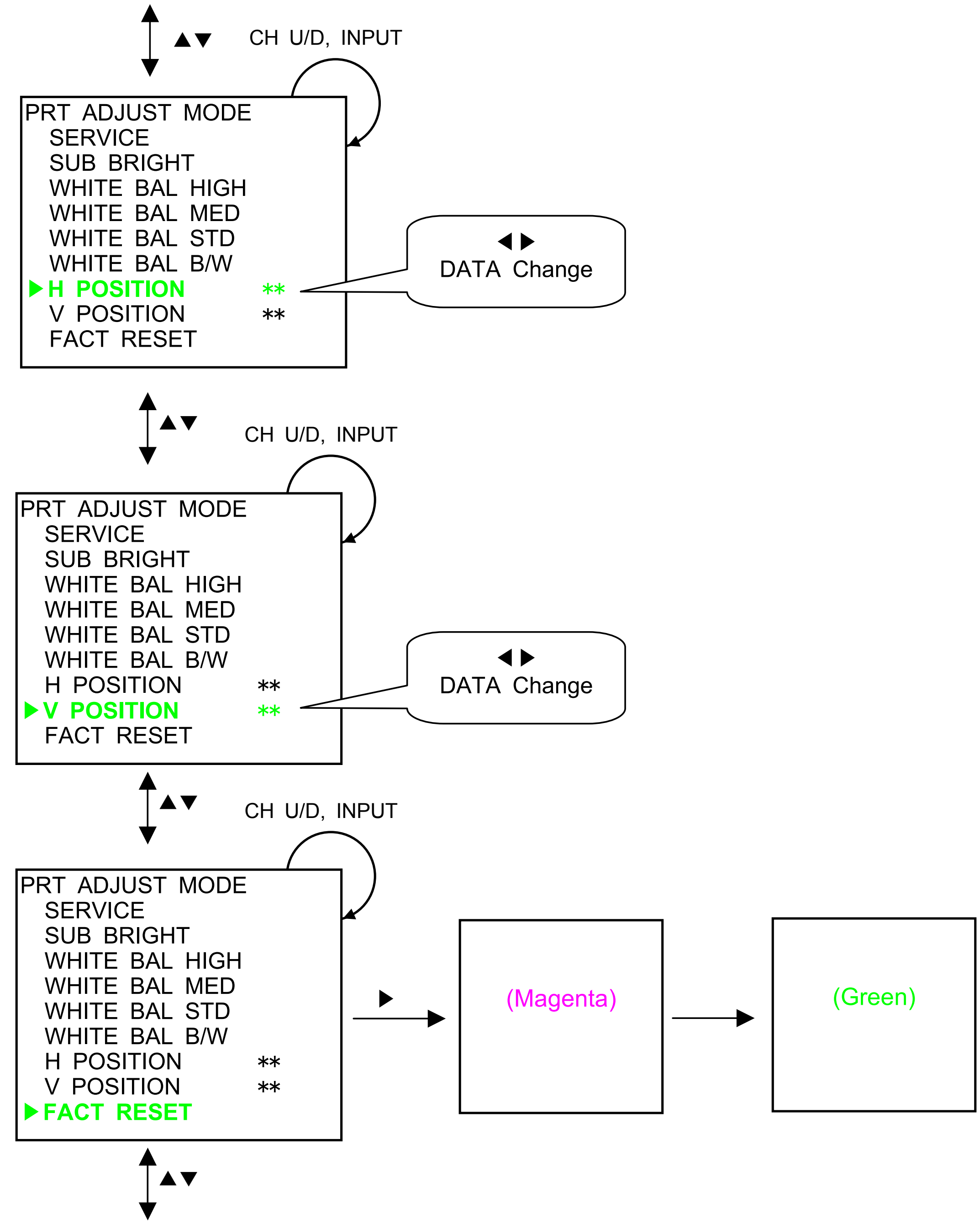

CH U/D, INPUT
PRT ADJUST MODE
SERVICE
SUB BRIGHT
WHITE BAL HIGH
WHITE BAL MED
WHITE BAL STD
WHITE BAL B/W
H POSITION **
V POSITION **
FACT RESET
Select or ▶
EXIT
G DRV HIGH **
R DRV HIGH **
R CUT HIGH **
G CUT HIGH **
B CUT HIGH **
Press EXIT key
Select DRV/CUT and Press → key
G DRV **
R DRV **
R CUT **
G CUT **
B CUT **
CH U/D, INPUT
CH U/D, INPUT
CH U/D, INPUT

WHITE BALANCE
ADJUST MODE

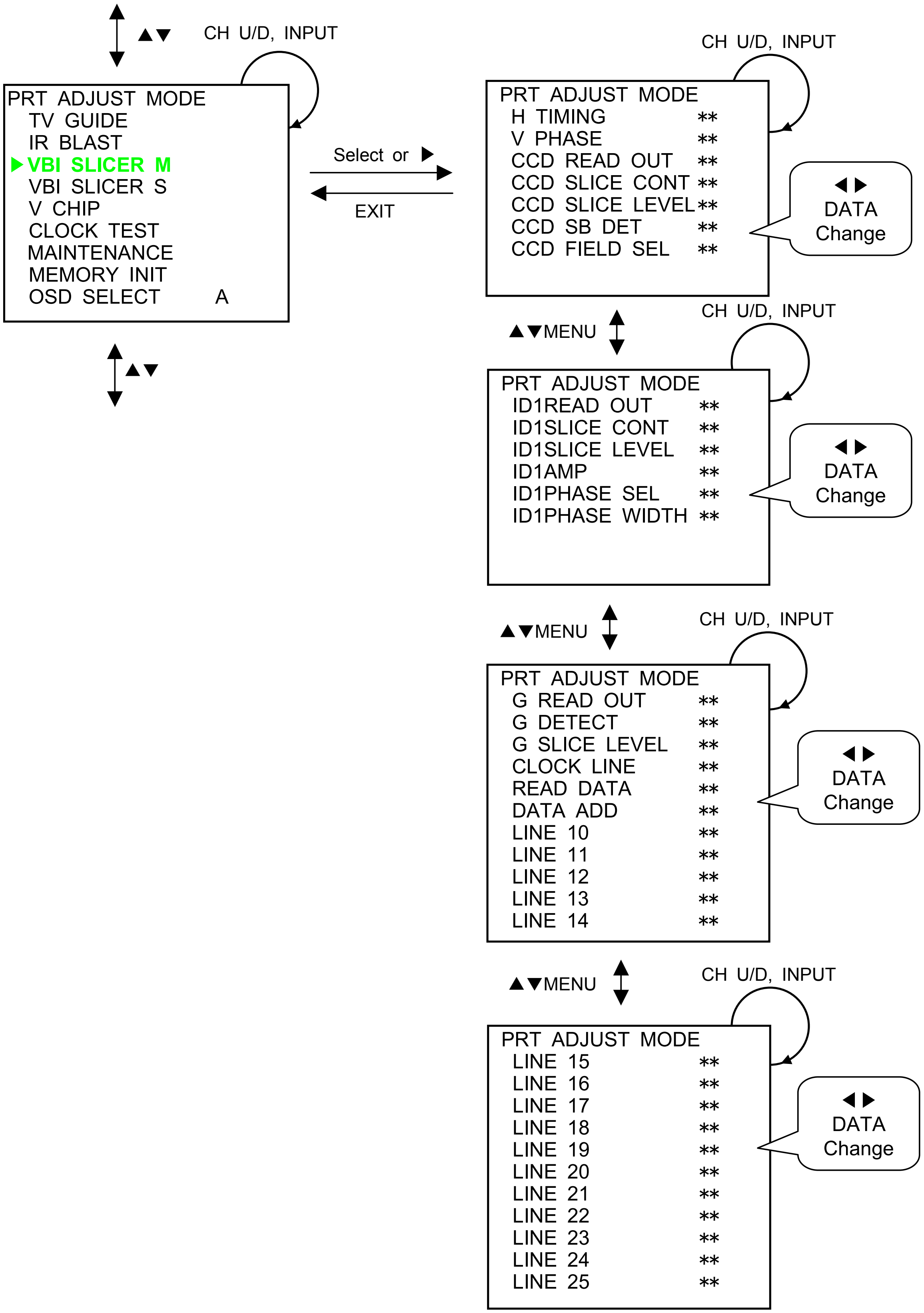
VIDEO SETTINGS
(1) CONTRAST ; MAX
(2) COLOR,TINT,SHARP,BRIGHT ; CENTER
(3) COLOR TEMP ; HIGH

ADJUST
(1) Press ↑ ↓ to Select the G DRV,R DRV, R CUT,G CUT,B CUT.
(Initial position G/B DRV)
G/B DRV,B/R DRV select by the DR R and DR BG.
(2) Press ← →to adjust

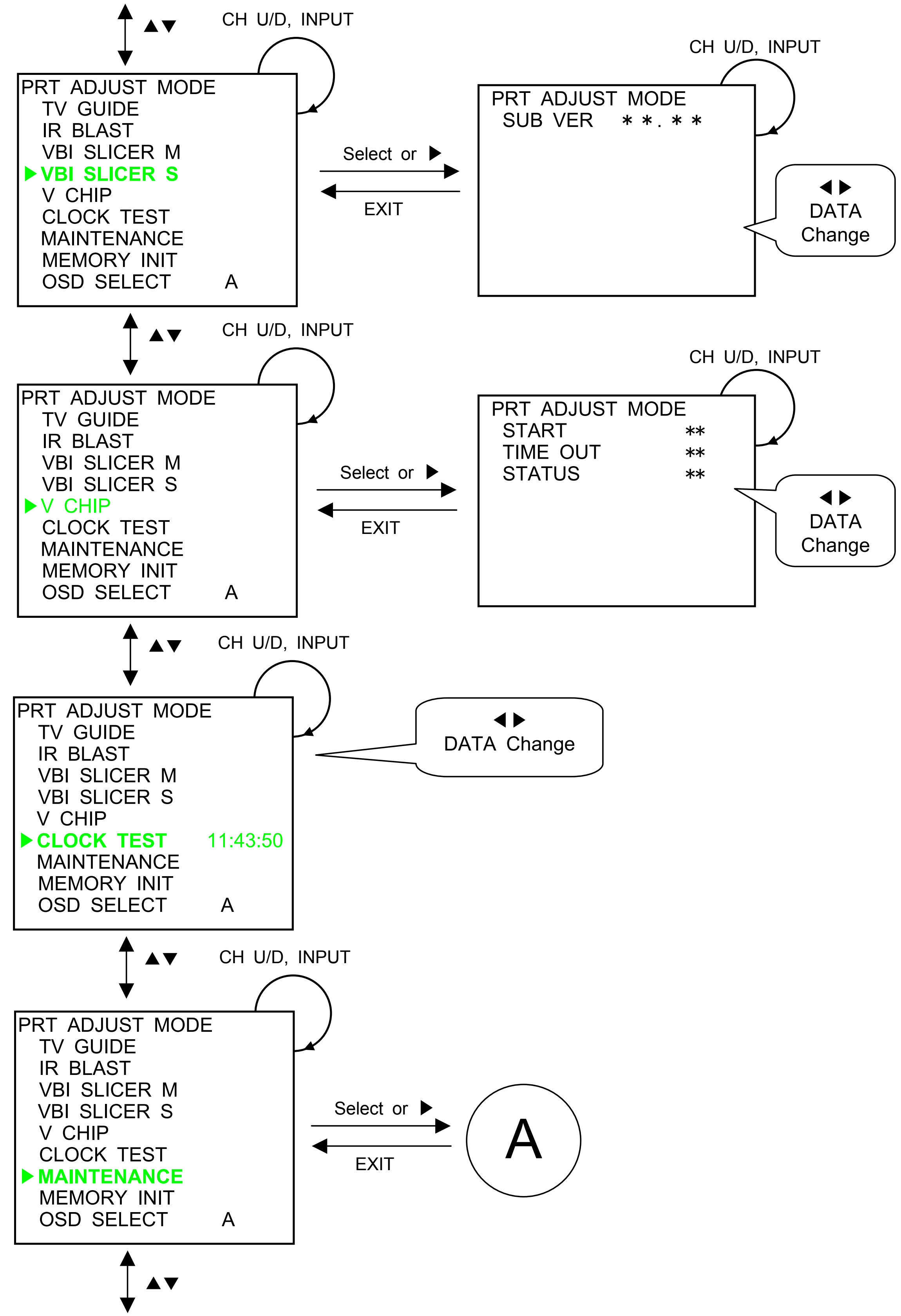
2.16 Adjustment OSD Flowchart (Cont.)


▲▼
CH U/D, INPUT
PRT ADJUST MODE
SERVICE
SUB BRIGHT
WHITE BAL HIGH
WHITE BAL MED
WHITE BAL STD
WHITE BAL B/W
▶H POSITION **
V POSITION **
FACT RESET
◀ ▶
DATA Change
▲▼
CH U/D, INPUT
PRT ADJUST MODE
SERVICE
SUB BRIGHT
WHITE BAL HIGH
WHITE BAL MED
WHITE BAL STD
WHITE BAL B/W
H POSITION **
▶V POSITION **
FACT RESET
◀ ▶
DATA Change
▲▼
CH U/D, INPUT
PRT ADJUST MODE
SERVICE
SUB BRIGHT
WHITE BAL HIGH
WHITE BAL MED
WHITE BAL STD
WHITE BAL B/W
H POSITION **
V POSITION **
▶FACT RESET
▶
(Magenta)
(Green)
▲▼

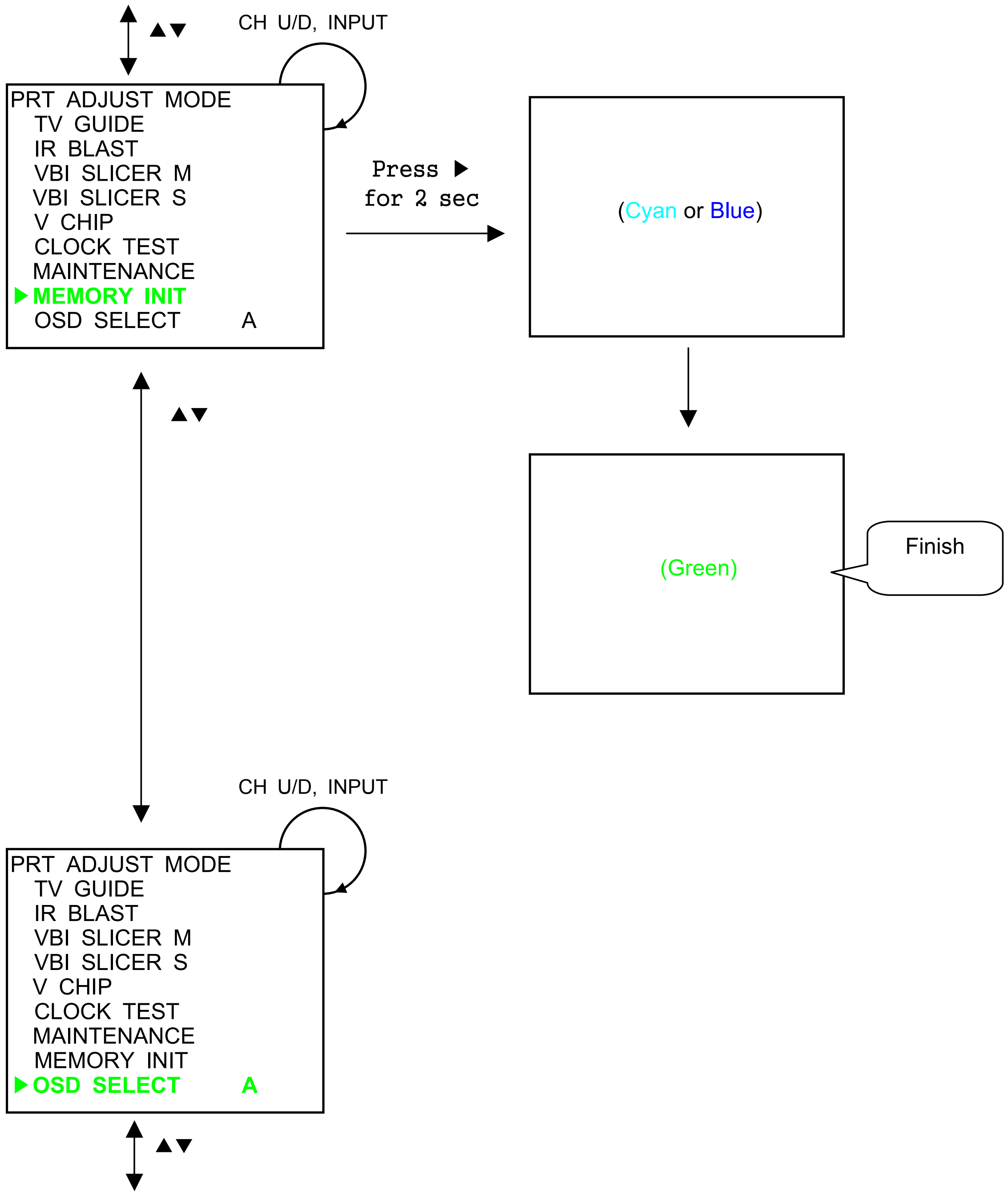
2.16 Adjustment OSD Flowchart (Cont.)


▲▼
CH U/D, INPUT
PRT ADJUST MODE
TV GUIDE
IR BLAST
▶VBI SLICER M
VBI SLICER S
V CHIP
CLOCK TEST
MAINTENANCE
MEMORY INIT
OSD SELECT A
▲▼
Select or ▶
EXIT
CH U/D, INPUT
PRT ADJUST MODE
H TIMING **
V PHASE **
CCD READ OUT **
CCD SLICE CONT **
CCD SLICE LEVEL **
CCD SB DET **
CCD FIELD SEL **
◀ ▶ DATA Change
▲▼MENU
CH U/D, INPUT
PRT ADJUST MODE
ID1READ OUT **
ID1SLICE CONT **
ID1SLICE LEVEL **
ID1AMP **
ID1PHASE SEL **
ID1PHASE WIDTH **
◀ ▶ DATA Change
▲▼MENU
CH U/D, INPUT
PRT ADJUST MODE
G READ OUT **
G DETECT **
G SLICE LEVEL **
CLOCK LINE **
READ DATA **
DATA ADD **
LINE 10 **
LINE 11 **
LINE 12 **
LINE 13 **
LINE 14 **
◀ ▶ DATA Change
▲▼MENU
CH U/D, INPUT
PRT ADJUST MODE
LINE 15 **
LINE 16 **
LINE 17 **
LINE 18 **
LINE 19 **
LINE 20 **
LINE 21 **
LINE 22 **
LINE 23 **
LINE 24 **
LINE 25 **
◀ ▶ DATA Change

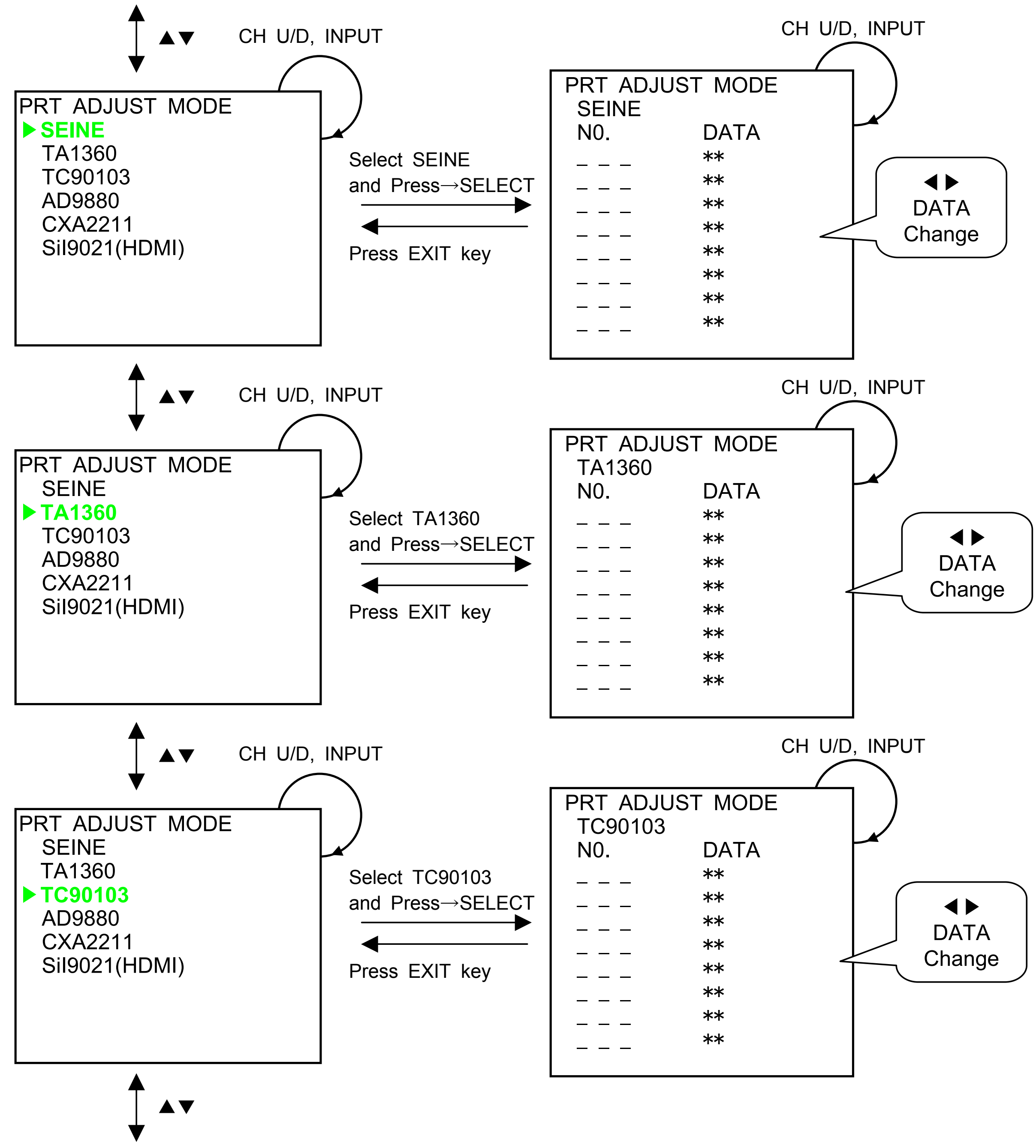
2.16 Adjustment OSD Flowchart (Cont.)


▲▼
CH U/D, INPUT
PRT ADJUST MODE
TV GUIDE
IR BLAST
VBI SLICER M
▶VBI SLICER S
V CHIP
CLOCK TEST
MAINTENANCE
MEMORY INIT
OSD SELECT A
Select or ▶
EXIT
CH U/D, INPUT
PRT ADJUST MODE
SUB VER ＊＊.＊＊
◀▶ DATA Change
▲▼
CH U/D, INPUT
PRT ADJUST MODE
TV GUIDE
IR BLAST
VBI SLICER M
VBI SLICER S
▶V CHIP
CLOCK TEST
MAINTENANCE
MEMORY INIT
OSD SELECT A
Select or ▶
EXIT
CH U/D, INPUT
PRT ADJUST MODE
START **
TIME OUT **
STATUS **
◀▶ DATA Change
▲▼
CH U/D, INPUT
PRT ADJUST MODE
TV GUIDE
IR BLAST
VBI SLICER M
VBI SLICER S
V CHIP
▶CLOCK TEST 11:43:50
MAINTENANCE
MEMORY INIT
OSD SELECT A
◀▶ DATA Change
▲▼
CH U/D, INPUT
PRT ADJUST MODE
TV GUIDE
IR BLAST
VBI SLICER M
VBI SLICER S
V CHIP
CLOCK TEST
▶MAINTENANCE
MEMORY INIT
OSD SELECT A
Select or ▶
EXIT
A
▲▼

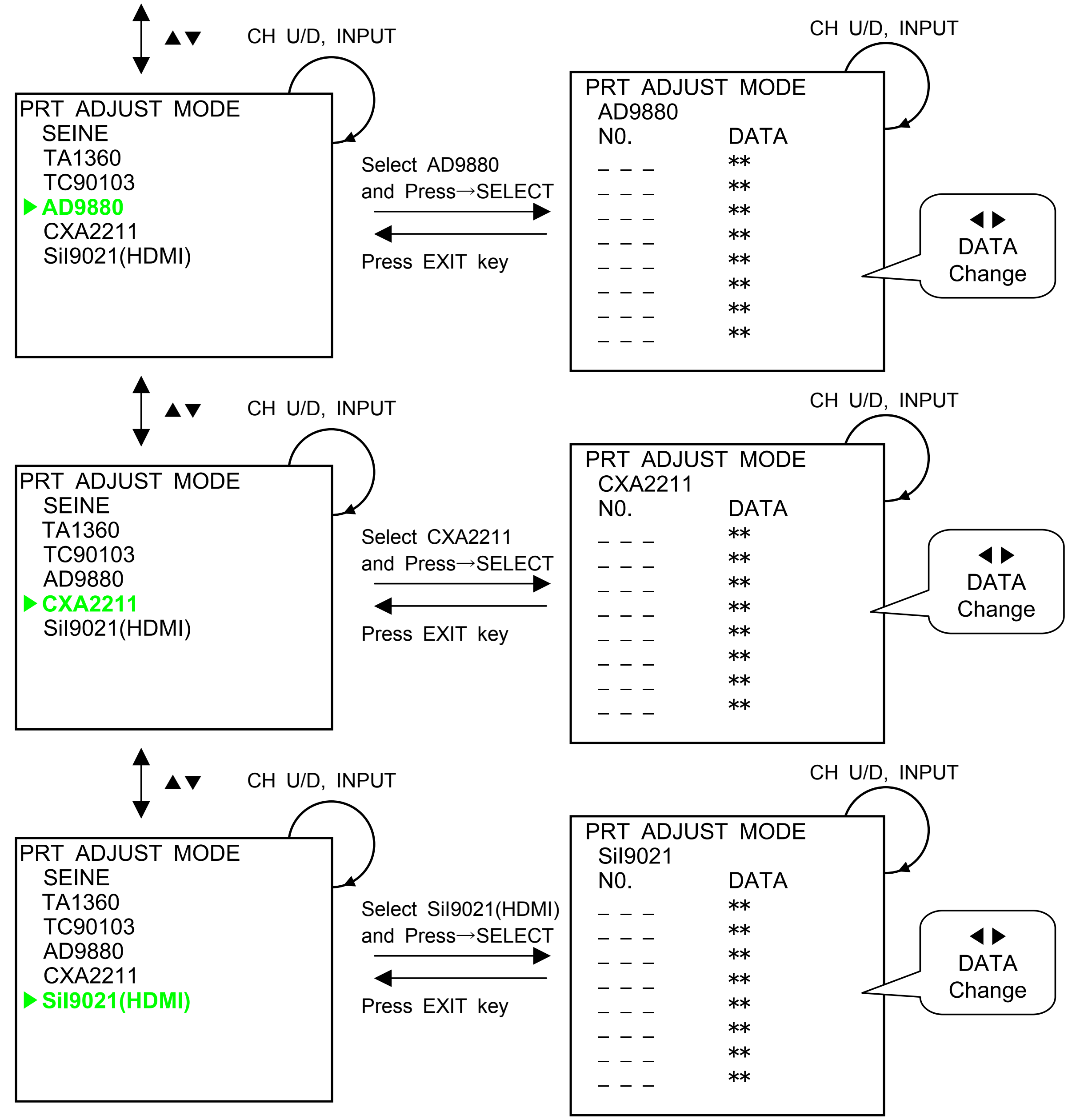
2.16 Adjustment OSD Flowchart (Cont.)


▲▼
CH U/D, INPUT
PRT ADJUST MODE
TV GUIDE
IR BLAST
VBI SLICER M
VBI SLICER S
V CHIP
CLOCK TEST
MAINTENANCE
▶MEMORY INIT
OSD SELECT A
Press ▶
for 2 sec
(Cyan or Blue)
(Green)
Finish
▲▼
CH U/D, INPUT
PRT ADJUST MODE
TV GUIDE
IR BLAST
VBI SLICER M
VBI SLICER S
V CHIP
CLOCK TEST
MAINTENANCE
MEMORY INIT
▶OSD SELECT A
▲▼

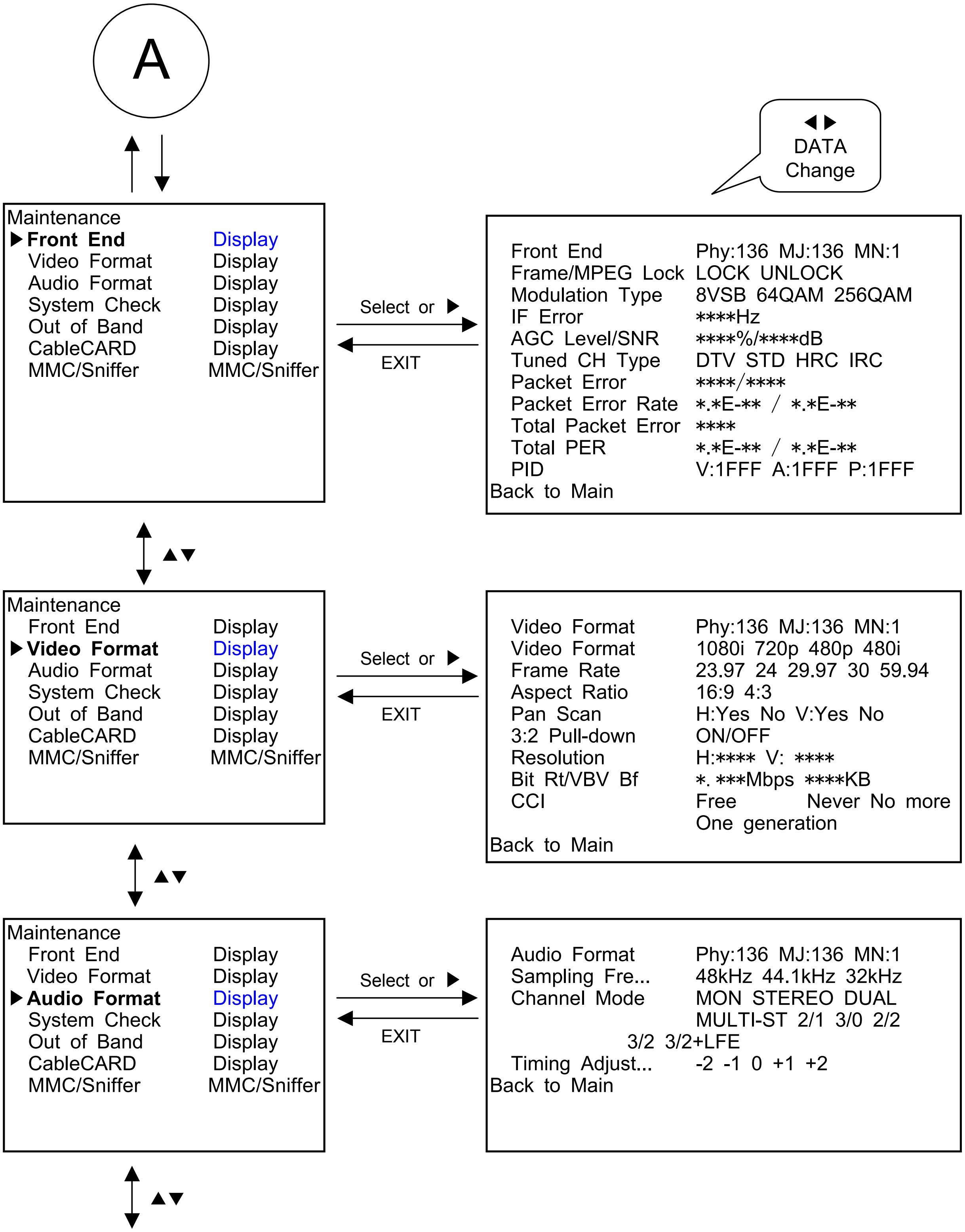
2.16 Adjustment OSD Flowchart (Cont.)


▲▼
CH U/D, INPUT
PRT ADJUST MODE
▶SEINE
TA1360
TC90103
AD9880
CXA2211
SiI9021(HDMI)
Select SEINE
and Press→SELECT
Press EXIT key
CH U/D, INPUT
PRT ADJUST MODE
SEINE
N0. DATA
_ _ _ **
◀ ▶
DATA
Change
▲▼
CH U/D, INPUT
PRT ADJUST MODE
SEINE
▶TA1360
TC90103
AD9880
CXA2211
SiI9021(HDMI)
Select TA1360
and Press→SELECT
Press EXIT key
CH U/D, INPUT
PRT ADJUST MODE
TA1360
N0. DATA
_ _ _ **
◀ ▶
DATA
Change
▲▼
CH U/D, INPUT
PRT ADJUST MODE
SEINE
TA1360
▶TC90103
AD9880
CXA2211
SiI9021(HDMI)
Select TC90103
and Press→SELECT
Press EXIT key
CH U/D, INPUT
PRT ADJUST MODE
TC90103
N0. DATA
_ _ _ **
◀ ▶
DATA
Change
▲▼

2.16 Adjustment OSD Flowchart (Cont.)


▲▼
CH U/D, INPUT
PRT ADJUST MODE
SEINE
TA1360
TC90103
▶ AD9880
CXA2211
SiI9021(HDMI)
Select AD9880
and Press→SELECT
Press EXIT key
CH U/D, INPUT
PRT ADJUST MODE
AD9880
N0. DATA
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
◀ ▶
DATA
Change
▲▼
CH U/D, INPUT
PRT ADJUST MODE
SEINE
TA1360
TC90103
AD9880
▶ CXA2211
SiI9021(HDMI)
Select CXA2211
and Press→SELECT
Press EXIT key
CH U/D, INPUT
PRT ADJUST MODE
CXA2211
N0. DATA
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
◀ ▶
DATA
Change
▲▼
CH U/D, INPUT
PRT ADJUST MODE
SEINE
TA1360
TC90103
AD9880
CXA2211
▶ SiI9021(HDMI)
Select SiI9021(HDMI)
and Press→SELECT
Press EXIT key
CH U/D, INPUT
PRT ADJUST MODE
SiI9021
N0. DATA
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
_ _ _ **
◀ ▶
DATA
Change

2.16 Adjustment OSD Flowchart (Cont.)



Maintenance
▶ **Front End** Display
Video Format Display
Audio Format Display
System Check Display
Out of Band Display
CableCARD Display
MMC/Sniffer MMC/Sniffer

Front End	Phy:136 MJ:136 MN:1
Frame/MPEG Lock	LOCK UNLOCK
Modulation Type	8VSB 64QAM 256QAM
IF Error	****Hz
AGC Level/SNR	****%/****dB
Tuned CH Type	DTV STD HRC IRC
Packet Error	****/****
Packet Error Rate	*.*E-** / *.*E-**
Total Packet Error	****
Total PER	*.*E-** / *.*E-**
PID	V:1FFF A:1FFF P:1FFF

Back to Main

Maintenance
Front End Display
▶ **Video Format** Display
Audio Format Display
System Check Display
Out of Band Display
CableCARD Display
MMC/Sniffer MMC/Sniffer

Video Format	Phy:136 MJ:136 MN:1
Video Format	1080i 720p 480p 480i
Frame Rate	23.97 24 29.97 30 59.94
Aspect Ratio	16:9 4:3
Pan Scan	H:Yes No V:Yes No
3:2 Pull-down	ON/OFF
Resolution	H:\**** V: ****
Bit Rt/VBV Bf	*. ***Mbps ****KB
CCI	Free Never No more One generation

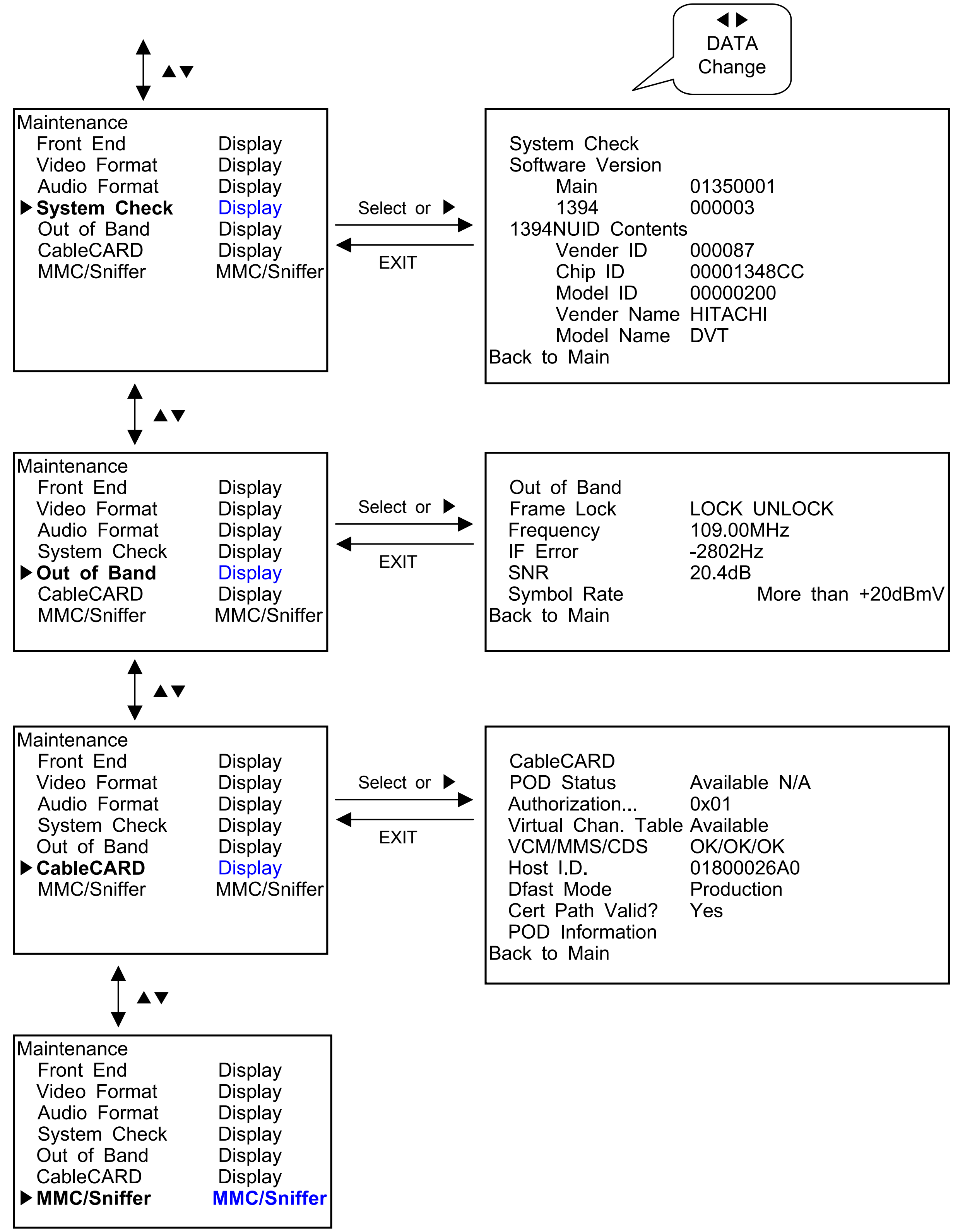
Back to Main

Maintenance
Front End Display
Video Format Display
▶ **Audio Format** Display
System Check Display
Out of Band Display
CableCARD Display
MMC/Sniffer MMC/Sniffer

Audio Format	Phy:136 MJ:136 MN:1
Sampling Fre...	48kHz 44.1kHz 32kHz
Channel Mode	MON STEREO DUAL MULTI-ST 2/1 3/0 2/2 3/2 3/2+LFE
Timing Adjust...	-2 -1 0 +1 +2

Back to Main

2.16 Adjustment OSD Flowchart (Cont.)


▲▼
◀ ▶ DATA Change
Select or ▶
EXIT
Maintenance
Front End Display
Video Format Display
Audio Format Display
▶ System Check Display
Out of Band Display
CableCARD Display
MMC/Sniffer MMC/Sniffer
▲▼
Select or ▶
EXIT
Maintenance
Front End Display
Video Format Display
Audio Format Display
System Check Display
▶ Out of Band Display
CableCARD Display
MMC/Sniffer MMC/Sniffer
▲▼
Select or ▶
EXIT
Maintenance
Front End Display
Video Format Display
Audio Format Display
System Check Display
Out of Band Display
▶ CableCARD Display
MMC/Sniffer MMC/Sniffer
▲▼
Maintenance
Front End Display
Video Format Display
Audio Format Display
System Check Display
Out of Band Display
CableCARD Display
▶ MMC/Sniffer MMC/Sniffer

System Check

Software Version	
Main	01350001
1394	000003
1394NUID Contents	
Vender ID	000087
Chip ID	00001348CC
Model ID	00000200
Vender Name	HITACHI
Model Name	DVT

Back to Main

Out of Band

Frame Lock	LOCK UNLOCK
Frequency	109.00MHz
IF Error	-2802Hz
SNR	20.4dB
Symbol Rate	More than +20dBmV

Back to Main

CableCARD

POD Status	Available N/A
Authorization...	0x01
Virtual Chan. Table	Available
VCM/MMS/CDS	OK/OK/OK
Host I.D.	01800026A0
Dfast Mode	Production
Cert Path Valid?	Yes
POD Information	

Back to Main

2.17 Horizontal position adjustment

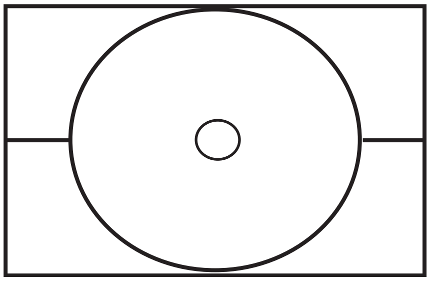
Adjustment preparation

(1) The screen face of set should be turned to East or West.
(2) VIDEO control should be set to Factory Preset Condition.
(3) DIGITAL CONVERGENCE adjustment should be finished.

Adjustment procedure

NORMAL 16:9 STANDARD MODE

(1) Receive circle pattern.
(2) Picture Format is 16:9 Standard.
(3) Go to I$_2$C Adj. mode by pressing the R/C keys **MENU + MENU + MENU + 8 + SELECT** to enter the I^{2}C mode.
(4) Choose H. POSITION item using R/C THUMBSTICK ▲,▼.
(5) Adjust HORIZONTAL POSITION as follows, using R/C THUMBSTICK ◀,▶.

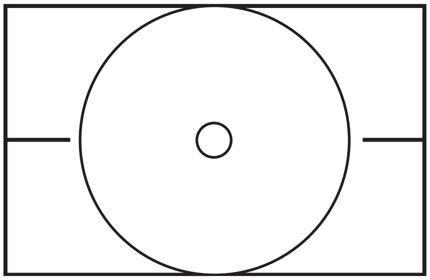


Spec: Balance Left/Right side display position.
H. size marker 1.0~2.0.

Adjustment procedure

1080i 16:9 Standard Mode

(1) Input 1080i (fH=33.75KHz) component circle pattern signal to component video terminal.
(2) Picture Format is 16:9 Standard.
(3) Go to I^{2}C Adj. mode.
(4) Choose H. POSITION item using R/C THUMBSTICK ▲,▼.
(5) Adjust HORIZONTAL POSITION as follows, using R/C THUMBSTICK ◀,▶.



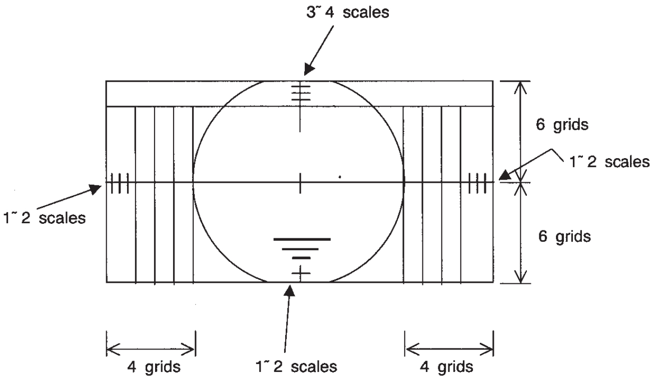
Spec: Balance Left/Right side display position.

2.18 Scanning area check

Checking condition

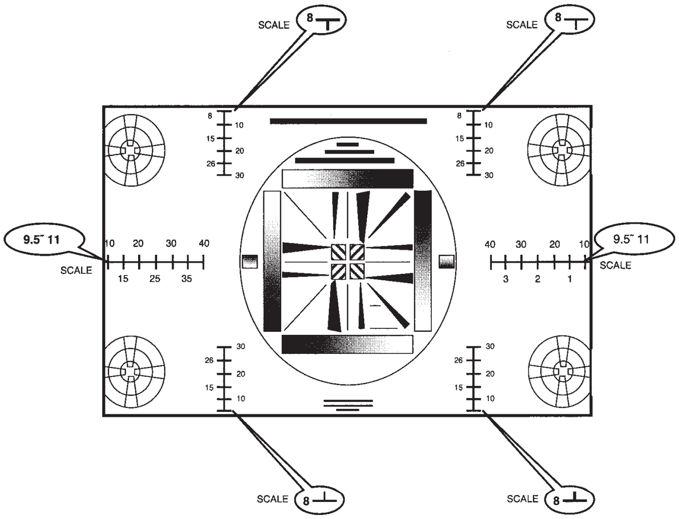
(1) Digital convergence adjustment should have been completed.
(2) Receive the circle pattern signal.
(3) Brightness/Contrast - standard condition
Contrast:max
Other controls:center position
(4) Check that the scanning area matches with the following drawing.

Receive 1080i circle pattern No. 59 of LT1611*, LT1608* of LEADER signal generator.



- LT1611 : Programmable Video Generator
- LT1608 : Video Encoder

Receive 1080i circle pattern of LT-449 (Leader)



2.19 TOP & BOTTOM PANEL DISTORTION CHECK

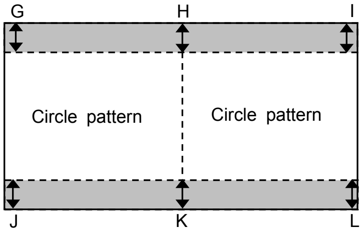
Measuring Condition

(1) Measure it after 20 minutes or later of the picture appearance.

(2) Display NTSC Circle Pattern.
Contrast: Max, Brightness: Center

(3) Press [PIP] key on remote controller to select “SPLIT” mode as shown below.

(4) Measure Top & Bottom panel width as shown.



SPLIT mode

Specification : Top & Bottom distortion ··· Value shown in the following table or less.
(Unit : mm)

Pincushion distortion	46”	51”	57”	65”	Remarks
G − H H − I	±1.5	±2.0	±2.0	±2.5	
J − K K − L	±1.5	±2.0	±2.0	±2.5	

Trapezoidal distortion	46”	51”	57”	65”	Remarks
G − I	±1.0	±2.0	±1.5	±2.0	
J − L	±1.0	±2.0	±1.5	±2.0	

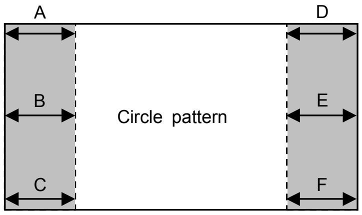
2.20 SIDE PANEL DISTORTION CHECK

Measuring Condition

(1) Measure it after 20 minutes or later of the picture appearance.

(2) Display NTSC circle pattern signal, set Aspect to 4:3 standard mode.
Contrast: Max, Brightness: Center

(3) Measure side panel width as shown below A ~ F.



4:3 standard mode

Specification : Side panel distortion ··· Value shown in the following table or less.
(Unit : mm)

Pincushion distortion	46”	51”	57”	65”	Remarks
A − B B − C	±2.0	±2.5	±2.5	±3.0	
D − E E − F	±2.0	±2.5	±2.5	±3.0	

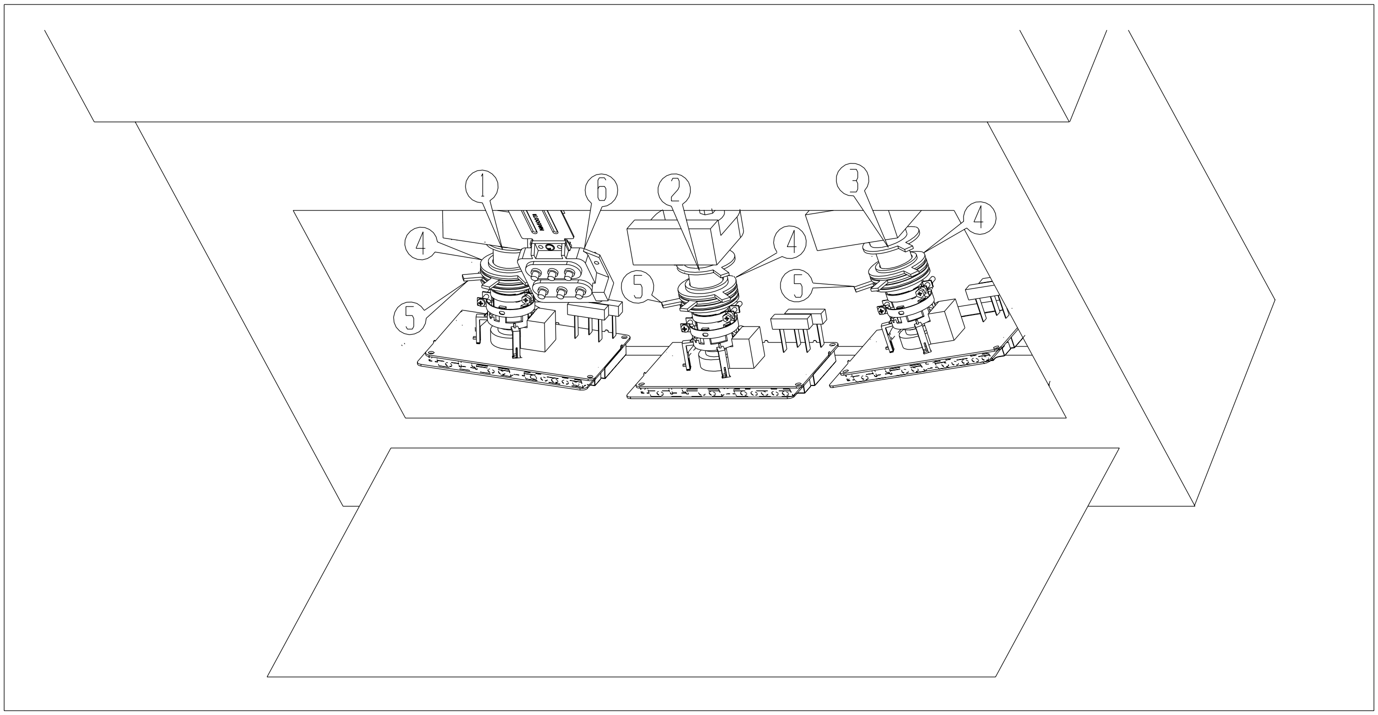
Trapezoidal distortion	46”	51”	57”	65”	Remarks
A − C	±1.5	±2.0	±2.0	±2.5	
D − F	±1.5	±2.0	±2.0	±2.5	

NOTE: If any of the above is not within specification, re-adjust convergence.

BACK TO ADJUSTMENTS

ADJUSTMENT POINT
CRT, cabinet locations

FRONT VIEW



1.- CENTERING MAGNET RED PRT
2.- CENTERING MAGNET GREEN PRT
3.- CENTERING MAGNET BLUE PRT
4.- BEAM FORM MAGNET
5.- BEAM ALIGNMENT MAGNET
6.- FOCUS PACK, SCREEN AND FOCUS ADJUSTMENTS

BACK TO ADJUSTMENTS

2.21 I^2C Adjustment Parameter List

1st page (1/2)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
SERVICE	SERVICE		OFF	←	←	←
TA1360 (88H)						
SUB BRIGHT	[ISF Mode] Sub Brightness	00～FF	3F	←	←	←
WHITE BAL	White Balance Mode (TA1360 88H)					
G DRIVE(HIGH)	[ISF Mode] Color Temperature: High Green/Red Drive Gain Adjustment	00～7F	3F	←	←	←
R DRIVE(HIGH)			3F	←	←	←
R CUTOFF(HIGH)	[ISF Mode] Color Temperature: High Red/Green/Blue Cutoff Adjustment	00～FF	7F	←	←	←
G CUTOFF(HIGH)			7F	←	←	←
B CUTOFF(HIGH)			7F	←	←	←
G DRIVE(MED)	[ISF Mode] Color Temperature: Medium Green/Red Drive Gain Adjustment	00～7F	4A	←	←	←
R DRIVE(MED)			4E	←	←	←
R CUTOFF(MED)	[ISF Mode] Color Temperature: Medium Red/Green/Blue Cutoff Adjustment	00～FF	7F	←	←	←
G CUTOFF(MED)			7F	←	←	←
B CUTOFF(MED)			7F	←	←	←
G DRIVE(STD)	[ISF Mode] Color Temperature: Standard Green/Red Drive Gain Adjustment	00～7F	52	←	←	←
R DRIVE(STD)			56	←	←	←
R CUTOFF(STD)	[ISF Mode] Color Temperature: Standard Red/Green/Blue Cutoff Adjustment	00～FF	7F	←	←	←
G CUTOFF(STD)			7F	←	←	←
B CUTOFF(STD)			7F	←	←	←

BACK TO ADJUSTMENTS

1st page (2/2)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
WHITE BAL	White Balance Mode (TA1360 88H)					
G DRIVE (B/W)	[ISF Mode] Color Temperature: Black/White Green/Red Drive Gain Adjustment	00～7F	58	←	←	←
R DRIVE (B/W)			64	←	←	←
R CUTOFF (B/W)	[ISF Mode] Color Temperature: Black/White Red/Green/Blue Cutoff Adjustment	00～FF	7F	←	←	←
G CUTOFF (B/W)			7F	←	←	←
B CUTOFF (B/W)			7F	←	←	←
H POSITION	[ISF Mode] Horizontal Position Adjustment 00: .10%~ 7F: +10%	00～7F	42	←	←	←
SEINE						
V POSITION	[ISF Mode] Vertical Position Adjustment	00～8FCh	465h	←	←	←
FACTORY RESET	FACTORY RESET	—	—	—	—	—

2nd page (1/2)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
SEINE						
TV_GUiDE	Don’t care					
TV_GUiDE	Don’t care					
TV_GUiDE	Don’t care					
UEI						
iR_BLASTER						
iR_BLASTER						
TC90103						
H_TiMiNG	VBIDLY: Slicer H Timing Delay （ID1/WSS/CCD/G-Gide）	00〜0F	08	←	←	←
V_PHASE	VBIVAD: Slicer V Phase （ID1/WSS/CCD/G-Gide）	00〜07	04	←	←	←
CCD_READ_oUT	CCDON: CCD Slice Read Output	00～01	01	←	←	←
CCD_SLiCE_CoNT	CSLICES: CCD Slice Control	00～01	00	←	←	←
CCD_SLiCE_LEVEL	CSLICEL: CCD Slice Level	00～03	00	←	←	←
CCD_SB_DET	CSTMOD: CCD SB Detect	00～01	00	←	←	←
CCD_FiELD_SEL	CCDMOD: CCD Field Select	00～03	02	←	←	←
iD1_READ_oUT	ID1ON: ID1 Slice Read Output	00～01	01	←	←	←
iD1_SLiCE_CoNT	ISLICES: ID1 Slice Control	00～01	00	←	←	←
iD1_SLiCE_LEVEL	ISLICEL: ID1 Slice Level	00～03	00	←	←	←
iD1_AMP	IRWIDON: ID1 Amplitude Detect	00～01	00	←	←	←
iD1_PHASE_SEL	IEDGES: ID1 Phase Select	00～01	00	←	←	←
iD1_PHASE_WiDTH	IRTIMS: ID1 Detection Phase Width	00～01	00	←	←	←

2nd page (2/2)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
TC90103						
G_READ_oUT	GGSON: Guide Slice Read Output	00～01	01	←	←	←
G_DETECT	GGSJDG: Guide Detection Sensitivity	00～01	01	←	←	←
G_SLiCE_LEVEL	GGSLV: Guide Slice Level	00～03	00	←	←	←
CLoCK_RUN_iN	GGPKDET: Guide Clock Run In Detect	00～01	00	←	←	←
READ_DATA_oRDER	SLDSLT: Guide Read Out order	00～01	00	←	←	←
ADD_DATA	GGSIGON: Guide Add Data Function	00～01	00	←	←	←
LiNE_10_25	Line 10～25	0000～FFFF	0000	←	←	←
Sub Micro						
VBi_SLiCER_S	Sub VBI (CCD/V Chip) Adjustment					
SAMPLiNG						
POLLiNG						
START						
TiMEoUT						
STATUS						
Seine/Sub Micro						
CLoCK_TEST						
AFC_TEST						
MAiNTENANCE						
MEMoRY_iNiTiALiZE						

Seine (1/4)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
SEINE						
001	Capture Picture Sync Delay 00h: Delay Adjustment, 1: Through	00～01	00	←	←	←
002	Active area top field V sync phase 00h: odd field, 01h: even field	00～01	00	←	←	←
003	Vertical Delay	000～7FF	00	←	←	←
004	Horizontal Delay	000～FFF	00	←	←	←
005	Picture Horizontal Sync Up Position	0000～1130	898	←	←	←
006	Picture Horizontal Sync Down Position	0000～1130	898	←	←	←
007	Picture Horizontal Blanking Up Position	0000～1130	898	←	←	←
008	Picture Horizontal Blanking Down Position	0000～1130	898	←	←	←
009	Picture Vertical Blanking Up Position	000～8FC	465	←	←	←
010	Picture Vertical Blanking Down Position	000～8FC	465	←	←	←
011	Picture Clamp Horizontal Up Position	0000～1130	898	←	←	←
012	Picture Clamp Horizontal Down Position	0000～1130	898	←	←	←
013	Picture Clamp Vertical Position Mask Start Position	000～8FC	465	←	←	←
014	Picture Clamp Vertical Position Mack End Position	000～8FC	465	←	←	←
015	Picture Black Level Distinction Horizontal Up Position	0000～1130	898	←	←	←
016	Picture Black Level Distinction Horizontal Down Position	0000～1130	898	←	←	←
017	Picture Black Level Vertical Mask Start Position	000～8FC	465	←	←	←
018	Picture Black Level Vertical Mask End Position	000～8FC	465	←	←	←
019	U,V Output Gain Mode 00h: SMPTE, 01h: Beta Cam	00～01	00	←	←	←
020	Horizontal Sync Input Delay	00～03	00	←	←	←

Seine (2/4)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
SEINE						
021	Vertical Sync Input Delay	00～03	00	←	←	←
022	Horizontal Filter Switch for Y 00h: through, 01h: 0.25fs	00～01	00	←	←	←
023	Horizontal Filter Switch for U 00h: through, 01h: 0.25fs, 02h: 0.055fs, 03h: 0.037fs	00～03	00	←	←	←
024	Horizontal Filter Switch For V 00h: through, 01h: 0.25fs, 02h: 0.055fs, 03h: 0.037fs	00～03	00	←	←	←
025	Plain Bland Out Color 00h: YUV_BT709, 01h: YUV_BT601	00～01	00	←	←	←
026	Picture Digital Output Select 00h: Normal, 01h: Color Bar	00～01	00	←	←	←
027	Setup 00h: off, 01h: on	00～01	00	←	←	←
028	Noise Reduction Switch for Y 00h: Not Round, 01h: Round NTSC/480i Input only	00～01	01	←	←	←
029	Y Moving Detection Band for Noise Reduction 00h: Narrowband, 01h: Wideband NTSC/480i Input only	00～01	00	←	←	←
030	Y Moving Horizontal Extension for Noise Reduction 00h:OFF, 01h:ON NTSC/480i Input only	00～01	01	←	←	←
031	Y Signal Round Coefficient for Noise Reduction NTSC/480i Input only	00～0D	0A	←	←	←
032	Y Frame Difference Limit for Noise Reduction NTSC/480i Input only	00～1F	03	←	←	←
033	Color Signal Noise Reduction Switch 00h: Not Round, 01h: Round NTSC/480i Input only	00～01	01	←	←	←
034	Color Moving Detection Band for Noise Reduction 00h: Narrowband, 01h: Wideband NTSC/480i Input only	00～01	00	←	←	←
035	Color Moving Horizontal Extension foe Noise Reduction 00h:OFF, 01h:ON NTSC/480i Input only	00～01	01	←	←	←

Seine (3/4)

Adjustment Mode OSD	**Adjustment Item**	**Adjustment Range(HEX)**	**Initial Data(HEX)**			
			DP55			
SEINE						
036	Color Signal Round Coefficient for Noise Reduction NTSC/480i Input only	00～0D	0A	←	←	←
037	Color Signal Frame Difference Limit for Noise Reduction NTSC/480i Input only	00～1F	03	←	←	←
038	Enhance Movement Mode 00h: Enhancer & 2nd V filter OFF 01h: Enhancer ON 02h: 2nd V filter ON 03h: Reserved	00～03	00	←	←	←
039	Enhancer Movement Mode Select 00h: 1H, 01h: 2H	00～01	00	←	←	←
040	Noise Distinction Value	00～10	00	←	←	←
041	Noise Reduction Gain	00～07	00	←	←	←
042	Vertical Enhancer Gain 1/16step 0x00: OFF, 0x20: 2 times	00～20	00	←	←	←
043	Vertical Enhancer Coring Value	00～0F	00	←	←	←
044	Vertical Enhancer Turning Position	00～FF	00	←	←	←
045	Horizontal Enhancer Gain 1/16step 0x00: OFF, 0x20: 2 倍	00～20	00	←	←	←
046	Horizontal Enhancer Coring Value	00～0F	00	←	←	←
047	Horizontal Enhancer Turning Position	00～FF	00	←	←	←
048	Horizontal Enhancer Coefficient Z6	00～FF	00	←	←	←
049	Horizontal Enhancer Coefficient Z5	00～FF	00	←	←	←
050	Horizontal Enhancer Coefficient Z4	00～FF	00	←	←	←
051	Horizontal Enhancer Coefficient Z3	00～FF	00	←	←	←
052	Horizontal Enhancer Coefficient Z2	00～FF	00	←	←	←
053	Horizontal Enhancer Coefficient Z1	00～FF	00	←	←	←
054	Horizontal Enhancer Coefficient Z0	00～FF	00	←	←	←

Seine (4/4)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				DP55			
SEINE							
055	Odd/Even Field Horizontal Active Picture Data Start Point	ANT/NTSC	000～6B4	0F8	←	←	←
056		480i_YPbPr	000～35A	0F4	←	←	←
057		480i_HDMI	000～6B4	000	←	←	←
058		480p_YPbPr	000～35A	078	←	←	←
059		480p_HDMI	000～35A	000	←	←	←
060		1080i_YPbPr	000～898	0E0	←	←	←
061		1080i_HDMI	000～898	000	←	←	←
062		720p_YPbPr	000～672	120	←	←	←
063		720p_HDMI	000～672	000	←	←	←
064		VGA_HDMI	000～35A	000	←	←	←
065	S/N Detection Setting (Receiving Mode Border Line Setting)	Mode 1-2	00～FF	19	←	←	←
066		Mode 2-3	00～FF	32	←	←	←
067		Mode 3-4	00～FF	4B	←	←	←
068		Mode 4-5	00～FF	64	←	←	←

TA1360 (1/5)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				DP55			
TA1360							
001	[ISF Mode] RGB Output Mode Switch 00: Normal, 01: R only, 02: G only, 03: B only		00～03	00	←	←	←
002	[ISF Mode] Brightness Offset 1	Black Enhancement Middle	00～7F	3F	←	←	←
003		Black Enhancement Low	00～7F	3F	←	←	←
004		Black Enhancement Off	00～7F	3F	←	←	←
005	[ISF Mode] Brightness Offset 2	480i/480p/1080i/720p	00～7F	3F	←	←	←
006	[ISF Mode] Sub Contrast 00h: -3.4 dB ～ 1Fh: +2.6 dB		00～1F	12	←	←	←
007	[ISF Mode] Color (Center Adjustment) 00h: -20 dB ～ 7Fh: +4.5 dB	ANT/NTSC	00～7F	46	←	←	←
008		480i/480p	00～7F	4B	←	←	←
009		1080i/720p	00～7F	4C	←	←	←
010	[ISF Mode] Color Offset	Color Temperature Medium	00～3F	1F	←	←	←
011		Color Temperature Standard	00～3F	1F	←	←	←
012		Color Temperature B/W	00～3F	1F	←	←	←
013	[ISF Mode] Tint (Center Adjustment) 00h: -32degree ～ 7Fh: +32degree	ANT/NTSC	00～7F	41	←	←	←
014		480i/480p	00～7F	3F	←	←	←
015		1080i/720p	00～7F	3F	←	←	←
016	[ISF Mode] Tint Offset	Color Temperature Medium	00～3F	1F	←	←	←
017		Color Temperature Standard	00～3F	1F	←	←	←
018		Color Temperature B/W	00～3F	1F	←	←	←
019	[ISF Mode] Sharpness(Center Adjustment) 10 dB ～ +15 dB	ANT/NTSC	00～7F	20	←	←	←
020		480i/480p	00～7F	20	←	←	←
021		1080i/720p	00～7F	1F	←	←	←

TA1360 (2/5)

Adjustment Mode OSD	Adjustment Item			Adjustment Range(HEX)	Initial Data(HEX)			
					DP55			
TA1360								
022	[ISF Mode] R-Y/B-Y Phase 00h: 90 degree, 0Fh: 109 degree		ANT/NTSC	00～0F	00	←	←	←
023			480i/480p	00～0F	00	←	←	←
024			1080i/720p	00～0F	00	←	←	←
025	[ISF Mode] R-Y/B-Y Gain 00h: 0.56 ～ 0Fh: 0.86	ANT/NTSC	Color Temp. High	00～0F	09	←	←	←
026			Color Temp. Medium	00～0F	07	←	←	←
027			Color Temp. Standard	00～0F	05	←	←	←
028			Color Temp. B/W	00～0F	02	←	←	←
029		480i/480p	Color Temp. High	00～0F	0A	←	←	←
030			Color Temp. Medium	00～0F	08	←	←	←
031			Color Temp. Standard	00～0F	06	←	←	←
032			Color Temp. B/W	00～0F	03	←	←	←
033		1080i/720p	Color Temp. High	00～0F	07	←	←	←
034			Color Temp. Medium	00～0F	05	←	←	←
035			Color Temp. Standard	00～0F	03	←	←	←
036			Color Temp. B/W	00～0F	02	←	←	←
037	[ISF Mode] G-Y/B-Y Phase 00h: 232.5 degree, 0Fh: 255 degree		ANT/NTSC	00～0F	02	←	←	←
038			480i/480p	00～0F	02	←	←	←
039			1080i/720p	00～0F	03	←	←	←

TA1360 (3/5)

Adjustment Mode OSD	**Adjustment Item**			**Adjustment Range(HEX)**	**Initial Data(HEX)**			
					DP55			
TA1360								
040	[ISF Mode] G-Y/B-Y Gain 00h: 0.3 ～ 0Fh: 0.45	ANT/NTSC	High	00～0F	01	←	←	←
041			Medium	00～0F	02	←	←	←
042			Standard	00～0F	03	←	←	←
043			B/W	00～0F	04	←	←	←
044		480i/480p	High	00～0F	02	←	←	←
045			Medium	00～0F	03	←	←	←
046			Standard	00～0F	04	←	←	←
047			B/W	00～0F	05	←	←	←
048		1080i/720p	High	00～0F	00	←	←	←
049			Medium	00～0F	01	←	←	←
050			Standard	00～0F	02	←	←	←
051			B/W	00～0F	03	←	←	←
052	[ISF Mode] BLACK STRETCH POINT		Black Enhancement High	00～07	05	←	←	←
053			Black Enhancement Middle	00～07	03	←	←	←
054			Black Enhancement Low	00～07	01	←	←	←
055	[ISF Mode] DC Restoration Point 00h: 0% ～ 07h: 47%			00～07	00	←	←	←
056	[ISF Mode] DC Restoration Rate 00h: 100% ～ 07h: 135%			00～07	00	←	←	←
057	[ISF Mode] DC Restoration Limit Point 00h: 60%, 01h: 73%, 02h: 87%, 03h: 100%			00～03	00	←	←	←
058	[ISF Mode] Dynamic ABL Detection Point 00h: MIN ～ 03h: MAX			00～03	03	←	←	←
059	[ISF Mode] Dynamic ABL Gain 00h: MIN ～ 03h: MAX			00～03	00	←	←	←

TA1360 (4/5)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				DP55			
TA1360							
060	Sand castle Pulse Switch 00h: Internal, 01h: External Input		00～01	01	←	←	←
061	Aperture Control Peak f0 00h: 15 MHz, 01h: 8.8 MHz , 02h: 7.5 MHz, 03h: 5 MHz	ANT/NTSC	00～03	01	←	←	←
062		480i/480p	00～03	01	←	←	←
063		1080i/720p	00～03	00	←	←	←
064	Color Limiter Level Switch 00h: 1.65 Vp-p, 01h: 2 Vp-p		00～01	01	←	←	←
065	Color SRT Gain 00h: min ～ 03h: max		00～03	00	←	←	←
066	Color SRT Frequency 00h: 4.3 MHz ～ 01h: 5.8 MHz		00～01	01	←	←	←
067	VM Phase 00h: -37.5 ns, 05h: Normal, 07h: +15 ns	ANT/NTSC 480i/480p	00～07	06	←	←	←
068		1080i/720p	00～07	04	←	←	←
069	Color Detail Enhancer 00h: min ～ 03h: max		00～03	00	←	←	←
070	DCU RGB Brightness 00h: -20 IRE ～ 7Fh: +20 IRE		00～7F	3F	←	←	←
071	DCU RGB Contrast 00h: -17 dB ～ 7Fh: 0 dB		00～7F	6D	←	←	←
072	DC Restoration Ratio Switch 00h: 100% less, 01h: 100% over		00～01	00	←	←	←
073	Color γ Correction Point 00h: OFF, 01h: 0.23 Vp-p, 02h: 0.37 Vp-p, 03h: 0.52 Vp-p		00～03	00	←	←	←
074	Component Dynamic Y/C Correction Select 00h: OFF, 01h: min, 02h: mid, 03h: max		00～03	00	←	←	←
075	APL / Black Stretch Start Point 00h: 0 IRE ～ 03h: 23 IRE		00～03	00	←	←	←

TA1360 (5/5)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
TA1360						
076	Black Level Auto Correction Switch D2 00h: OFF, 01h: ON	00～01	01	←	←	←
077	Black Detection Level Switch D1 00h: 3 IRE, 01h: 0 IRE	00～01	01	←	←	←
078	Black Stretch Area Correction Switch D0 00h: ON, 01h: OFF	00～01	01	←	←	←
079	SRT (Super Real Transient) Gain 00h: MIN ～ 1Fh: MAX	00～1F	10	←	←	←
080	White Character Correction Amplitude 00h: min ～ 07h: max	00～07	07	←	←	←
081	ABL Detection Point 00h: MIN ～ 07h: MAX	00～07	07	←	←	←
082	ABL Gain 00h: MIN ～ 07h: MAX	00～07	00	←	←	←
083	Dynamic Y Gamma Gain vs. Dark Area 00h: OFF ～ 07h: MAX(+6 dB)	00～03	00	←	←	←
084	Dynamic Y Gamma Gain vs. Bright Area 00h: OFF ～ 07h: max	00～07	00	←	←	←
085	Static Y Gamma Black Gain 00h: OFF, 01h: MIN(0 DB) ～ 07h: MAX(+6 DB)	00～07	00	←	←	←
086	Static Y Gamma Bright Gain 00h: OFF, 01h: MIN(0 DB) ～ 03h: MAX(-6 DB)	00～03	03	←	←	←
087	Y Gamma Switch 00h: OFF, 01h: ON	00～01	00	←	←	←
088	Y Detail Control 00h: MIN(Trap) ～ 0Fh: MAX(+6 dB)	00～0F	07	←	←	←
089	Y Group Delay Control 00h: MIN(Trap) ～ 0Fh: MAX(+6 dB)	00～0F	09	←	←	←
090	White Peak Blue Point 00h: 55 IRE ～ 07h: 105 IRE	00～07	00	←	←	←
091	White Peak Blue Gain 00h: min(+2 dB) ～ 07h: max(+9.5 dB)	00～07	00	←	←	←
092	High Bright Color Switch 00h: OFF, 01h: ON	00～01	00	←	←	←
093	White Peak Suppressor Level 00h: 110 IRE, 01h: 130 IRE	00～01	01	←	←	←
094	Blue Stretch Gamma Correction 00h: OFF, 01h: ON	00～01	00	←	←	←
095	Green Stretch 00h: OFF ～ 03h: MAX	00～03	00	←	←	←
096	Blue Stretch Gain 00h: OFF ～ 03h: MAX(+4 dB)	00～03	00	←	←	←
097	Blue Stretch Point 00h: MIN(30 IRE)～ 03h: MAX(45 IRE)	00～03	00	←	←	←
098	Black Stretch Characteristic Switch 1 (OFF～MAX)	00～01	00	←	←	←
099	Black Stretch Characteristic Switch 2 (OFF～MAX)	00～01	00	←	←	←

TC90103 (1/12)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				DP55			
TC90103	ANT/NTSC/480i						
001	3D Motion Detection Select 00h:Compulsion Standard, 01h:Compulsion Still Picture, 02h:MOVE, 03h:MANU		00～03	03	←	←	←
002	YES Mode 00h:Mode1, 01h:3Line+3DNR, 02h:BPF+3DNR, 03h:Mode2		00～03	03	←	←	←
003	3D Y Noise Reduction Limiter Level 00h:Level Small～07h:Level Big		00～07	06	←	←	←
004	3D Color Noise Reduction Round Coefficient 00h:×1, 01h:×1/2, 02h:×3/4, 03h:OFF		00～03	02	←	←	←
005	3D Y Noise Reduction Gain 00h:OFF～07h:×0.875		00～07	00	←	←	←
006	3D Color Noise Reduction Limiter Level 00h:Level Small～07h:Level Large		00～07	05	←	←	←
007	3D Color Round Coefficient 00h:×1, 01h:×1/2, 02h:×3/4h, 03h:OFF		00～03	01	←	←	←
008	3D Color Noise Reduction Gain 00h:OFF～07h:×0.875		00～07	00	←	←	←
009	Vertical Enhancer Gain 00h:OFF, 01h:×1/8, 02h:×1/4, 03h:×1/2		00～03	03	←	←	←
010	Vertical Enhancer Turning Point 00h:6 IRE, 01h:9 IRE, 02h:13 IRE, 03h:16 IRE		00～03	01	←	←	←
011	Vertical Enhancer Coring 00h:OFF, 01h:0.8 IRE, 02h:1.6IRE, 03h:2.3 IRE		00～03	01	←	←	←
012	Sharpness f0 00h:4.2MHz, 01h:3.3MHz		00～01	00	←	←	←
013	Pre-Enhancer 00h:OFF, 01h:ON		00～01	00	←	←	←
014	Sharpness Gain 00h: OFF, 01h: 1.02dB, 02h: 1.94dB, 03h: 2.77dB, 04h: 3.52dB, 05h: 4.22dB, 06h: 4.86dB, 07h: 5.46dB, 08h: -6.02dB, 09h: -5.00dB, 0Ah: -4.08dB, 0Bh: -3.25dB, 0Ch: 2.50dB, 0Dh: -1.80dB, 0Eh: -1.16dB, 0Fh: -0.56 dB	ANT/NTSC	00～0F	01	←	←	←
015		Y/C/480i	00～0F	01	←	←	←

TC90103 (2/12)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				DP55			
TC90103	ANT/NTSC/480i						
016	Sharpness/Noise Cancel Coring 00h:0.8 IRE, 01h:1.6 IRE, 02h:3.2 IER, 03h:6.4 IRE	ANT/NTSC	00～03	01	←	←	←
017		Y/C/480i	00～03	01	←	←	←
018	Noise Cancel Gain 00h:OFF, 01h:×1/4, 0h2:×1/2, 03h:×1		00～03	00	←	←	←
019	LTI Gain (LTI = Luminance Transient Improvement) 00h:OFF, 01h:×1/8, 02h:×1/4, 03h:×1/2		00～03	03	←	←	←
020	LTI Coring Level (LTI = Luminance Transient Improvement) 00h:0.8 IRE, 01h:1.6 IRE, 02h:3.2 IER, 03h:6.4 IRE		00～03	00	←	←	←
021	Chrominance Delay 00h:-296ns～0Fh:259ns	ANT	00～0F	08	←	←	←
022		NTSC/480i	00～0F	08	←	←	←
023		Y/C	00～0F	08	←	←	←
024	CTI Gain (CTI = Chrominance Transient Improvement) 00h:OFF, 01h:×1/8, 02h:×1/4, 03h:×1/2		00～03	01	←	←	←
025	CTI Coring Level (CTI = Chrominance Transient Improvement) 00:0.2 IRE, 01:0.8 IRE, 02:1.6 IRE, 03:3.2 IRE		00～03	00	←	←	←
026	LTI f0 (LTI = Luminance Transient Improvement) 00h:3.2MHz, 01h:2.2MHz		00～01	01	←	←	←
027	CTI f0 (CTI = Chrominance Transient Improvement) 00h:1.7MHz, 01h:3.4MHz		00～01	01	←	←	←
028	Contrast Control 00h:×1/2～40h:×1～FFh:×2.4		00～FF	45	←	←	←
029	Brightness (Y Output Offset) 80h:-128Lsbh～00h:OFF～7Fh:+127（10Bit）		00～FF	7D	←	←	←
030	Cr Output Gain 08h:×0.5 ～ 00:×1 ～ 07:×1.4		00～0F	08	←	←	←
031	Cb Output Gain 08h:×0.5 ～ 00h:×1 ～ 07h:×1.4		00～0F	08	←	←	←
032	Cr Output Offset 08h:-8LSB ～ 00h:0 ～ 07h:+7LSB（10Bit）		00～0F	08	←	←	←
033	Cb Output Offset 08h:-8LSB ～ 00h:0 ～ 07h:+7LSB（10Bit）		00～0F	08	←	←	←
034	Phase Control 80h:-45° ～ 00h:0° ～ 7Fh: +43.6°		00～7F	40	←	←	←
035	Cb Delay 00h:Cb Preceding, 01h:Cr Delay		00～01	00	←	←	←

TC90103 (3/12)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
TC90103	ANT/NTSC/480i					
036	Demodulation Angle 00h: 0° ～ 3Fh:+45°	00～3F	00	←	←	←
037	Color Killer Level 00h:-40dB ～ 07h:-30dB	00～07	00	←	←	←
038	ACC Level (ACC = Auto Color Level) 00h: Min ～ 0Fh: Max [08h: Center]	00～0F	08	←	←	←
039	ACK Hysteresis (ACK = Auto Color Killer) 00h: Small, 01h: Large	00～01	01	←	←	←
040	2'nd BPF/TRAP on/off 00h:ON, 01h:OFF	00～01	00	←	←	←
041	2'nd BPF/TRAP bpf/trap 00h:Trap, 01h:BPF	00～01	00	←	←	←
042	TRAP1 00h:ON, 01h:OFF	00～01	01	←	←	←
043	TRAP2 00h:ON, 01h:OFF	00～01	01	←	←	←
044	Take Off Filter 00h:OFF, 01h:BPF ON, 02h:Min ～ 07h:Max ANT (RF Input)	00～07	07	←	←	←
045	NTSC/480i	00～07	01	←	←	←
046	Y Digital Clamp 00h:OFF, 01h:ON	00～01	00	←	←	←
047	BSRC Filter 00h:ON, 01h:OFF	00～01	01	←	←	←
048	Chrominance Digital Clamp 00h:OFF, 01h:ON	00～01	01	←	←	←
049	Y Noise Cancel Limiter 00h:4lsb, 01h:8lsb, 02h:16lsb, 03h:32lsb	00～03	00	←	←	←
050	Y Noise Cancel Gain 00h:OFF, 01h:×1, 02h:×1.5, 03h:×2	00～03	01	←	←	←
051	Chrominance Noise Cancel Limiter 00h:1lsb, 01h:2lsb, 02h:4lsb, 03h:8lsb	00～03	00	←	←	←
052	C Noise Cancel Gain 00h:OFF, 01h:×1, 02h:×1.5, 03h:×2	00～03	00	←	←	←
053	Horizontal Dot Obstruction Reduction 00h:OFF, 01h:×0.16, 02h:×0.17, 03h:×0.18	00～03	03	←	←	←
054	COMB+ 00h:OFF, 01h:ON	00～01	00	←	←	←
055	1 Line Dot Improvement 00h:OFF, 01h:ON	00～01	01	←	←	←
056	Vertical Y Noise Cancel Limiter 00h:8lsb, 01h:16lsb	00～01	00	←	←	←
057	Vertical Y Noise Cancel Gain 00h:×1, 01h:×2	00～01	00	←	←	←

TC90103 (4/12)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
TC90103	ANT/NTSC/480i					
058	Vertical Y ON 00h:OFF, 01h:ON	00～01	00	←	←	←
059	C NY Limiter 00h:16lsb, 01h:24lsb	00～01	00	←	←	←
060	C NC Gain	00～01	00	←	←	←
061	C-NC ON 00h:OFF, 01h:ON	00～01	00	←	←	←
062	IIR Filter 00h:OFF, 01h:ON	00～03	03	←	←	←
063	Output Peak Limiter 00h:OFF, 01h:ON	00～01	00	←	←	←
064	AFC Integrate Gain Switch	00～0F	03	←	←	←
065	AFC Proportional Gain Switch	00～0F	0B	←	←	←
066	Linear Gain Switch at Phase Large Error	00～0F	08	←	←	←
067	No Linear Area 2nd Gain Switch	00～0F	07	←	←	←
068	Linear Gain Switch at Phase Small Error	00～0F	02	←	←	←
069	Integrate Value Reset ON at Limit 00h:OFF, 01h:ON	00～01	00	←	←	←
070	Linear Area Width Setting for NTSC/480i	00～07	05	←	←	←
071	Sync Separation Input Select 00h:Internal, 01h:CsyncH, 02h:CsyncL, 03h:VsyncH, 04h:Internal（OFF_SET）, 07h:Free run	00～07	00	←	←	←
072	AFC Integrate Relay 00h:OFF, 01h:ON	00～01	01	←	←	←
073	Phase Error Gain Up 00h:ON, 01h:00×2, 02h:00×4, 03h:00×8	00～03	03	←	←	←
074	Phase Error Maximum Linear Area Width Setting 00h:OFF, 01h:LRW0＋16'h5000, 02h:LRW0＋16'h6000, 03h:LRW0＋16'h7000	00～03	03	←	←	←
075	Horizontal Standard Phase Adjustment 20h:-4.7μs ～ 00h:±0 ～ 1Fh:+4.59μs （1/6.75MHz_Step）	00～3F	20	←	←	←
076	Horizontal Separation Level 00h:30％, 01h:40％	00～01	00	←	←	←
077	Half Horizontal Killer 00h:OFF, 01h:ON	00～01	01	←	←	←

TC90103 (5/12)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
TC90103	ANT/NTSC/480i					
078	Vertical Standard Setting 04h:+4H ～ 00h:Center ～ 03h:－3H	00～07	04	←	←	←
079	External VD Phase Setting 00h:Center, 01h:+1.99us, 02h:+3.97us, 03h:＋5.96us, 04h:-7.94us, 05h:-5.96us, 06h:-3.97us, 07h:-1.99us	00～07	04	←	←	←
080	VD Output Control 00h:Always Input Sync 01h:DET50 02h/03h: TVM[1]	00～03	00	←	←	←
081	Field Distinction Horizontal Phase Setting 00h:-5.7us, 01h:-8.2us, 02h:-10.7us, 03h:-13.2us, 04h:-15.7us, 05h:-18.4us, 06h:-20.9us, 07h:-23.2us	00～07	04	←	←	←
082	Vertical Counter Tolerance 00h:-H/8～+H/4, 01h:±H/8	00～01	00	←	←	←
083	Vertical Counter Limiter 00h:OFF, 01h:ON	00～01	00	←	←	←
084	Vertical Jitter Remove 00h:OFF, 01h:ON	00～01	00	←	←	←
085	Field Distinction at Non Standard 00h:Reverse at Every 1V, 01h:Low	00～01	00	←	←	←
086	Integrate Center Level Setting for Vertical Separation 00h:5/16, 01h:1/2	00～01	01	←	←	←
087	Y Horizontal Edge Detection Level 00h:OFF, 01h:6 IRE, 02h:3 IRE, 03h:1.5 IRE	00～03	01	←	←	←
088	1 Field Y Detection Slope, Color Motion Picture Edge 00h:1/2 ～ 03h:∞[02]	00～03	02	←	←	←
089	1 Field Y Detection Offset, Color Motion Picture Edge 00h:Still Picture ～0Fh:Motion Picture [0C: Center]	00～0F	0A	←	←	←
090	Y Vertical Edge Detection Level 00h:OFF, 01h:12 IRE, 02h:5 IRE, 03h:2 IRE	00～03	01	←	←	←
091	1 Field Y Detection Slope, Color Motion Picture Smooth 00h:1/2 ～ 03h:∞[02]	00～03	02	←	←	←
092	1 Field Y Detection Offset, Color Motion Picture Edge 00h:Still Picture ～ 0Fh:Motion Picture [0C: Center]	00～0F	0C	←	←	←
093	Color Motion Picture Distinction Standard 00h:8%, 01h:16%, 02h:24%, 03h:32%	00～03	01	←	←	←
094	1 Field Y Detection Slope, Color Still Picture Edge 00h:1/2 ～ 03h:∞[02]	00～03	01	←	←	←
095	1 Field Y Detection Offset, Color Still Picture Edge 00h:Still Picture ～ 0Fh:Motion Picture [0C: Center]	00～0F	00	←	←	←

TC90103 (6/12)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
TC90103	ANT/NTSC/480i					
096	Y Motion Picture Distinction Standard 00h:8%, 01h:16%, 02h:24%, 03h:32%	00～03	01	←	←	←
097	1 Field Y Detection Slope, Color Still Picture Smooth 00h:1/2 ～ 03h:∞[02]	00～03	02	←	←	←
098	1 Field Y Detection Offset, Color Still Picture Smooth 00h:Still Picture ～ 0Fh:Motion Picture [0C: Center]	00～0F	08	←	←	←
099	2 Field Y Motion Detection Enhancement 00h:ON, 01h:OFF	00～01	00	←	←	←
100	2 Field Color Motion Detection Enhancement 00h:ON, 01h:OFF	00～01	00	←	←	←
101	1 Field Y Detection Slope, Y Motion Picture Edge 00h:ON, 01h:OFF	00～03	02	←	←	←
102	1 Field Y Detection Offset, Y Motion Picture Edge 00h:1/2 ～ 03h:∞[02]	00～0F	0D	←	←	←
103	2 Field Motion Detection Enhancement 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～01	00	←	←	←
104	2 Field Motion Detection Enhancement Standard 00h:ON, 01h:OFF	00～01	00	←	←	←
105	1 Field Y Detection Slope, Y Motion Picture Smooth 00h:ON 01h:OFF	00～03	02	←	←	←
106	1 Field Y Detection Offset, Y Motion Picture Smooth 00h:1/2 ～ 03h:∞[02: Default]	00～0F	0E	←	←	←
107	2 Field Color Detection 2nd Slope Threshold, Color Still Picture Edge 00h:0, 01h:1, 0h2:2, 03h:3	00～03	00	←	←	←
108	1 Field Y Detection Slope, Y Still Picture Edge 00h:1/2 ～ 03h:∞[02]	00～03	02	←	←	←
109	1 Field Y Detection Offset, Y Still Picture Edge 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～0F	06	←	←	←
110	2 Field C Detection 2nd Slope, Color Still Picture Edge 00h:1/8, 0h1:1/4, 02h:1/2, 03h:1	00～03	00	←	←	←

TC90103 (7/12)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
TC90103	ANT/NTSC/480i					
111	1 Filed Detection Slope, Y Still Picture Smooth 00h:1/2 ～ 03h:∞[02]	00～03	02	←	←	←
112	1 Field Y Detection Offset, Y Still Picture Smooth 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～0F	0A	←	←	←
113	2 Field Detection 2nd Slope Threshold, Color Still Picture Smooth 00h:0, 01h:1, 02h:2, 03h:3	00～03	00	←	←	←
114	2 Field Color Detection Slope, Color Motion Picture Smooth 00h:1/2 ～ 03h:∞[02]	00～03	02	←	←	←
115	2 Field Color Detection Offset, Color Motion Picture Edge 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～0F	06	←	←	←
116	2 Field Color Detection 2nd Slope, Color Still Picture Smooth 00h:1/8, 01h:1/4, 02h:1/2, 03h:1	00～03	00	←	←	←
117	2 Field Color Detection Slope, Color Motion Picture Edge 00h:1/2 ～ 03h:∞[02]	00～03	02	←	←	←
118	2 Field Color Detection Offset, Color Still Picture Smooth 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～0F	0C	←	←	←
119	2 Field 2nd Slope Threshold, Y Still Picture Edge 00h:0, 01h:1, 02h:2, 03h:3	00～03	01	←	←	←
120	2 Field Color Detection Slope, Color Still Picture Edge 00h:1/2 ～ 03h:∞ [02h: Default]	00～03	01	←	←	←
121	2 Field Color Detection Offset, Color Still Picture Smooth 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～0F	04	←	←	←
122	2 Field Detection 2nd Slope Offset, Y Still Picture Edge 00h:1/8, 01h:1/4, 02h:1/2, 03h:1	00～03	01	←	←	←
123	2 Field Color Slope Threshold, Color Still Picture Smooth 00h:1/2 ～ 03h:∞ [02h: Default]	00～03	02	←	←	←
124	2 Field Color Detection Offset, Color Still Picture Smooth 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～0F	0B	←	←	←
125	2 Field Detection 2nd Slope Threshold, Y Still Picture Smooth 00h:0, 01h:1, 02h:2, 03h:3	00～03	01	←	←	←

TC90103 (8/12)

Adjustment Mode OSD	**Adjustment Item**	**Adjustment Range(HEX)**	**Initial Data(HEX)**			
			DP55			
TC90103	ANT/NTSC/480i					
126	2 Field Detection Slope, Y Motion Picture Edge 00h:1/2 ～ 03h:∞ [02h: Default]	00～03	01	←	←	←
127	2 Field Detection Offset, Y Motion Picture Edge 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～0F	0D	←	←	←
128	2 Field Detection 2nd Slope, Y Still Picture Smooth 00h:1/8, 01h:1/4, 02h:1/2, 03h:1	00～03	01	←	←	←
129	2 Field Detection Slope. Y Motion Picture Smooth 00h:1/2 ～ 03h:∞ [02h: Default]	00～03	02	←	←	←
130	2 Field Detection Offset, Y Motion Picture Smooth 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～0F	0A	←	←	←
131	2 Field Detection Slope, Y Still Picture Edge 00h:1/2 ～ 03h:∞ [02h: Default]	00～03	02	←	←	←
132	2 Field Detection Offset, Y Still Picture Edge 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～0F	07	←	←	←
133	2 Field Detection Slope, Y Still Picture Smooth 00h:1/2 ～ 03h:∞ [02h: Default]	00～03	02	←	←	←
134	2 Field Detection Offset, Y Still Picture Smooth 00h:Still Picture ～ 0Fh:Motion Picture [0Ch: Center]	00～0F	0A	←	←	←
135	[NR] Color Level (for Y Differential Color Level Detection) 00h:Small ～ 0Fh:Large ［03h: Center］	00～0F	03	←	←	←
136	[NR/NR] Y Differential Integrate Motion Picture Distinction Level 00h:Motion Picture ～ 0Fh:Still Picture [01h: Default]	00～0F	01	←	←	←
137	2 Field Assistance Simple Color Motion Detection Threshold 00h:Small ～ 0Fh:Large [0Fh: Default]	00～0F	0F	←	←	←
138	2 Field Assistance Simple Color Motion Detection ON/OFF 00h:ON, 01h:OFF	00～01	00	←	←	←
139	Color Signal Edge Detection Level 00h:Small ～ 07h: Large [04h: Default]	00～07	05	←	←	←
140	2 Field Assistance Function 00h:OFF, 01h:ON	00～01	01	←	←	←

TC90103 (9/12)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
TC90103	ANT/NTSC/480i					
141	2 Field Assistance Select 00h:Y, 01h:C	00～01	00	←	←	←
142	2 Field Assistance Color Still Picture Distinction Level 00h: Small ～ 07h:Large [04h: Default]	00～07	04	←	←	←
143	2 Field Assistance Y Still Picture Distinction Level 00h: Small ～ 07h: Large [04h: Default]	00～07	04	←	←	←
144	1 Field Detection Still Offset Adjustment for Still Picture Cross Color Improvement 00h:OFF ～0Fh:Compulsion Still Picture 2 Step [0Ah: Default]	00～0F	0A	←	←	←
145	2 Field Detection Still Picture Offset Adjustment for Still Picture Cross Color Improvement 00h:OFF～0Fh:Still Picture Distinction	00～0F	03	←	←	←
146	Motion Detection Error, Compulsion Motion Picture at Vicinity of 3.4MHz Still Color Signal Level Threshold (Still Picture Color Detection) 00h:OFF～0Fh:15/1023 (1Lsb Step)[00h: Default]	00～0F	00	←	←	←
147	Motion Detection Error, Compulsion Motion Picture at Vicinity of 3.4MHz Still Picture Color Signal Level Threshold (Still Picture No Color Detection) 00h:OFF～0Fh:15/1023 (1Lsb Step)[00h: Default]	00～0F	00	←	←	←
148	[NR] Band Select 00h:Wideband, 01h: Narrowband	00～01	00	←	←	←
149	Y Differential Color Level Detection 00h:Motion Detection OFF, 01h:Nonlinear Processing	00～01	00	←	←	←
150	Y Non Correlation Detection Level Switch 00h:[4:0], 01h:「5:1」	00～01	00	←	←	←
151	Color Non Correlation Detection Level Switch 00h:[5:1], 01h:「6:2」	00～01	00	←	←	←
152	[NR] Y Differential Color Level Y Motion Picture Distinction Level 00h:Motion Picture ～ 0Fh:Still Picture [08h: Default]	00～0F	08	←	←	←
153	AGC Manual Setting (AGC = Auto Gain Control) 00h:OFF, 01h:ON	00～01	00	←	←	←
154	AGC Manual Gain Setting (AGC = Auto Gain Control)	00～7F	28	←	←	←
155	AGC Sync Level Detection ON/OFF (AGC = Auto Gain Control) 00h:OFF, 01h:ON	00～01	01	←	←	←

TC90103 (10/12)

Adjustment Mode OSD	**Adjustment Item**	**Adjustment Range(HEX)**	**Initial Data(HEX)**			
			DP55			
TC90103	ANT/NTSC/480i					
156	AGC Peak Level Detection ON/OFF (AGC = Auto Gain Control) 00h:OFF, 01h:ON	00～01	01	←	←	←
157	AGC OFF/ON Level Setting (AGC = Auto Gain Control) 00h:OFF, 01h:70%, 02h:75%, 03h:80%	00～03	00	←	←	←
158	GCA Setting (GCA = ?) 00h:Auto, 01h:Digital	00～01	00	←	←	←
159	AGC Response Time Setting (AGC = Auto Gain Control) 00h:Fast ～ 07h:Slow	00～07	00	←	←	←
160	Peak AGC Level (AGC = Auto Gain Control) 00h:105%, 01h:110%, 02h:115%, 03h:120%	00～03	01	←	←	←
161	GCA Gain Switch (GCA = ?) 00h:-3～+7dB, 01h:+6dB, 02h:-5～+5dB, 03h:-6～+4dB	00～03	01	←	←	←
162	Pedestal Difference Detection ON/OFF 00h:OFF, 01h:ON	00～01	00	←	←	←
163	Peak AGC Discharge Speed 00h:Fast ～ 07h:Slow	00～07	00	←	←	←
164	AGC Pedestal Timing for Digital Clamp (AGC = Auto Gain Control) 08h:-1.19us ～ 00h:(Center) ～ 07h:+1.04us	00～0F	08	←	←	←
165	AGC Sync Timing for Digital Clamp 08h:-1.19us ～ 00h:(Center) ～ 07h:+1.04us	00～0F	08	←	←	←
166	Horizontal Phase Adjustment for Digital Format 08h:-1.185us ～ 00h: 0us ～ 0Fh:+1.04us	00～0F	08	←	←	←
167	Vertical Phase Adjustment for Digital Format 00h:0H ～ 0Fh:+15H	00～0F	00	←	←	←
168	Vertical Horizontal Start Phase at Vertical Through 00h:0W, 01h:64W, 02h:128W, 03h:192W, 04h:256W, 05h:320W, 06h:348W, 07h:Prohibition	00～07	00	←	←	←
169	VD at Non Standard Output 00h:Horizontal Count Standard, 01h:Vertical Separation Standard	00～01	01	←	←	←
170	656 Non Conforming Horizontal Out Phase 00h:32W, 01h:36W, 02h:40W, 03h:44W	00～03	00	←	←	←

TC90103 (11/12)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
TC90103	ANT/NTSC/480i					
171	CK Out Clock Select 00h:13.5MHz, 01h:27MHz(601:13.5MHz), 02h:54MHz(656:27MHz), 03h:AUTO	00～03	03	←	←	←
172	Horizontal Blanking Period 00h:OFF, 01h:ON	00～01	00	←	←	←
173	Vertical Blanking Period 00h:OFF, 0h1:ON	00～01	00	←	←	←
174	601 Output Mode YCbCr Overlay Select 00h:OFF, 01h:ON	00～01	00	←	←	←
175	Horizontal Blanking Period Overlay Line Select NTSC:21/284 Lines＋(Register Value)、 PAL:24/337 Lines＋(Register Value) D2 60Hz 41 Lines＋(Register Value)、 D2 50Hz:47 Lines＋(Register Value)[00h: Default]	00～1F	00	←	←	←
176	Field Blanking Period Overlay Line Select NTSC:1 Line＋(Register Value)、 PAL:1 Line＋(Register Value)	00～0F	00	←	←	←
177	for DID Code Setting	00～0F	04	←	←	←
178	for SDID Code Setting	00～FF	04	←	←	←
179	Picture Processing Period Horizontal Start Phase Adjustment 08h:-1.185us ～ 00h:0us ～ 07h:+1.04us	00～0F	08	←	←	←
180	Picture Processing Period Horizontal Width Adjustment 08h:-1.185us ～ 00h:0us ～ 07h:+1.04us	00～0F	08	←	←	←
181	Picture Processing Period Vertical Start Phase Adjustment 00h:10 Line ～ 0Fh:25 Lines	00～0F	00	←	←	←
182	EN_PIXV_E 00h:Manual, 01h:Auto	00～01	00	←	←	←
183	COMB_KILL 00h:OFF, 01h:1～21H, 02h:1～22H, 03h:1～23H, 04h:1～24H, 05h:1～25H, 06h:1～26H, 07h1:Auto (60Hz:22H、50Hz:23H)	00～07	07	←	←	←
184	Horizontal Blanking Pulse Start Phase Adjustment 08h:-2.37us ～ 00h:0us ～ 07h:+2.07us	00～0F	08	←	←	←
185	Horizontal Blanking Pulse Width Adjustment 08h:-2.37us ～ 00h:0us ～ 07h:+2.07us	00～0F	08	←	←	←

TC90103 (12/12)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
TC90103	ANT/NTSC/480i					
186	Memory Write Horizontal Phase Adjustment 08h：-2.37us ～ 00h：0us ～ 07h：+2.07us	00～0F	08	←	←	←
187	Memory Write Vertical Start Phase Adjustment 08h：-8H ～ 00h：0us ～ 07h：+7H	00～0F	08	←	←	←
188	Burst Gate Pulse Start Phase Adjustment 00h：0us ～ 0Fh：+4.44us [02h: Default]（3.58MHz unit）	00～0F	02	←	←	←
189	Clamp Pulse Horizontal Adjustment for Ghost Canceller Tuner 08h：-1.185us ～ 00h：0us ～ 07h：+1.04us [0Dh: Default]（6.75MHz unit）	00～0F	08	←	←	←
190	Pedestal Detection Pulse Start Phase Adjustment for Horizontal Separation 08h:-2.37us～00h:±0～07h:+2.07us 3.375MHz unit	00～0F	08	←	←	←
191	Pedestal Detection Pulse Start Width Adjustment for Horizontal Separation 08h:-2.37us～00h:±0～07h:+2.07us 3.375MHz unit	00～0F	08	←	←	←
192	Charge Discharge Pulse Start Phase Adjustment for Input Clamp 08h:-2.37us～00h:±0～07h:+2.07us 3.375MHz unit	00～0F	08	←	←	←
193	Charge Discharge Pulse Start Width Adjustment for Input Clamp 08h:-2.37us～00h:±0～07h:+2.07us 3.375MHz unit	00～0F	08	←	←	←
194	Color Stripe Detection 00h：OFF, 01h：ON	00～01	00	←	←	←
195	Noise Detection Period Vertical Start Adjustment NTSC：7H/270H Lines＋（Register Value）、 PAL：４H/316H Lines＋（Register Value）	00～07	00	←	←	←
196	Read Data Read Order Switch	00～07	00	←	←	←
197	EDTV Ⅱ Detection 00h：OFF（ED2 Impossible）， 01h：ON（ID1 Impossible）	00～01	00	←	←	←
198	Linear Area Width Setting for ANT(Analog)	00～07	05	←	←	←

AD9880 (1/1)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				DP55			
AD9880	A/D Converter, 480p/1080i/720p						
001	Pr channel gain Adjust		00～7F	40	←	←	←
002	Y Channel Gain Adjust		00～7FF	40	←	←	←
003	Pb Channel Gain Adjust		00～7F	40	←	←	←
004	Pr offset MSB		00～FF	40	←	←	←
005	Pr Offset		00～FF	00	←	←	←
006	Y Offset MSB		00～FF	04	←	←	←
007	Y Offset		00～FF	00	←	←	←
008	Pb Offset MSB		00～FF	40	←	←	←
009	Pb Offset		00～FF	00	←	←	←
010	Clamp Placement	480p	00～FF	06	←	←	←
011		1080i	00～FF	45	←	←	←
012		720p	00～FF	45	←	←	←
013	Clamp Duration	480p	00～FF	1D	←	←	←
014		1080i	00～FF	2A	←	←	←
015		720p	00～FF	74	←	←	←

CXA2211 (1/2)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				DP55			
CXA2211	Sync Processor						
001	Horizontal Number High Bit		00～3FF	*	←	←	←
002	Vertical Number High Bit		00～7FF	*	←	←	←
003	AFC loop gain control 00h = H free-running mode 01h = gain low 02h = gain middle 03h = gain high	480i	00～03	02	←	←	←
004		480p	00～03	02	←	←	←
005		1080i	00～03	02	←	←	←
006		720p	00～03	02	←	←	←
007	Phase control (Control for rough-tune) for HOUT 00h = H sync center, 01h = center -3.125%, 02h = center -6.25%, 03h = center -9.375% 04h～06h = Leading edge same phase as HSSOUT 07h = Outputs the same phase as HSSOUT	480i	00～07	07	←	←	←
008		480p	00～07	07	←	←	←
009		1080i	00～07	07	←	←	←
010		720p	00～07	07	←	←	←
011	Phase control (Control for fine-tune) for HOUT This is valid when HSHIFT = 0～3. 1 step: 0.024%, Total control range: 6%	480i	00～FF	10	←	←	←
012		480p	00～FF	10	←	←	←
013		1080i	00～FF	10	←	←	←
014		720p	00～FF	10	←	←	←
015	Sets the sync separation method. This is valid when AUTO = 1 00h = Forcibly sliced at the sync tip + 78mV level. 01h = Level detection mode	480i	00～01	01	←	←	←
016		480p	00～01	01	←	←	←
017		1080i	00～01	01	←	←	←
018		720p	00～01	01	←	←	←

CXA2211 (2/2)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				DP55			
CXA2211	Sync Processor						
019	This is switch a switch that selects the route of LPF in the sync sep circuit. This is valid when AUTO = 1 00h = Through, 01h = LPF	480i	00～01	00	←	←	←
020		480p	00～01	00	←	←	←
021		1080i	00～01	00	←	←	←
022		720p	00～01	00	←	←	←
023	Sync separation circuit slice level setting This is valid when HSEPSEL = 1 00h = Automatic setting 01h = H fixed to 65% from the sync tip. 02h = H fixed to 25% from the sync tip. 03h = ***	480i	00～03	01	←	←	←
024		480p	00～03	01	←	←	←
025		1080i	00～03	01	←	←	←
026		720p	00～03	01	←	←	←

HDMI (1/2)

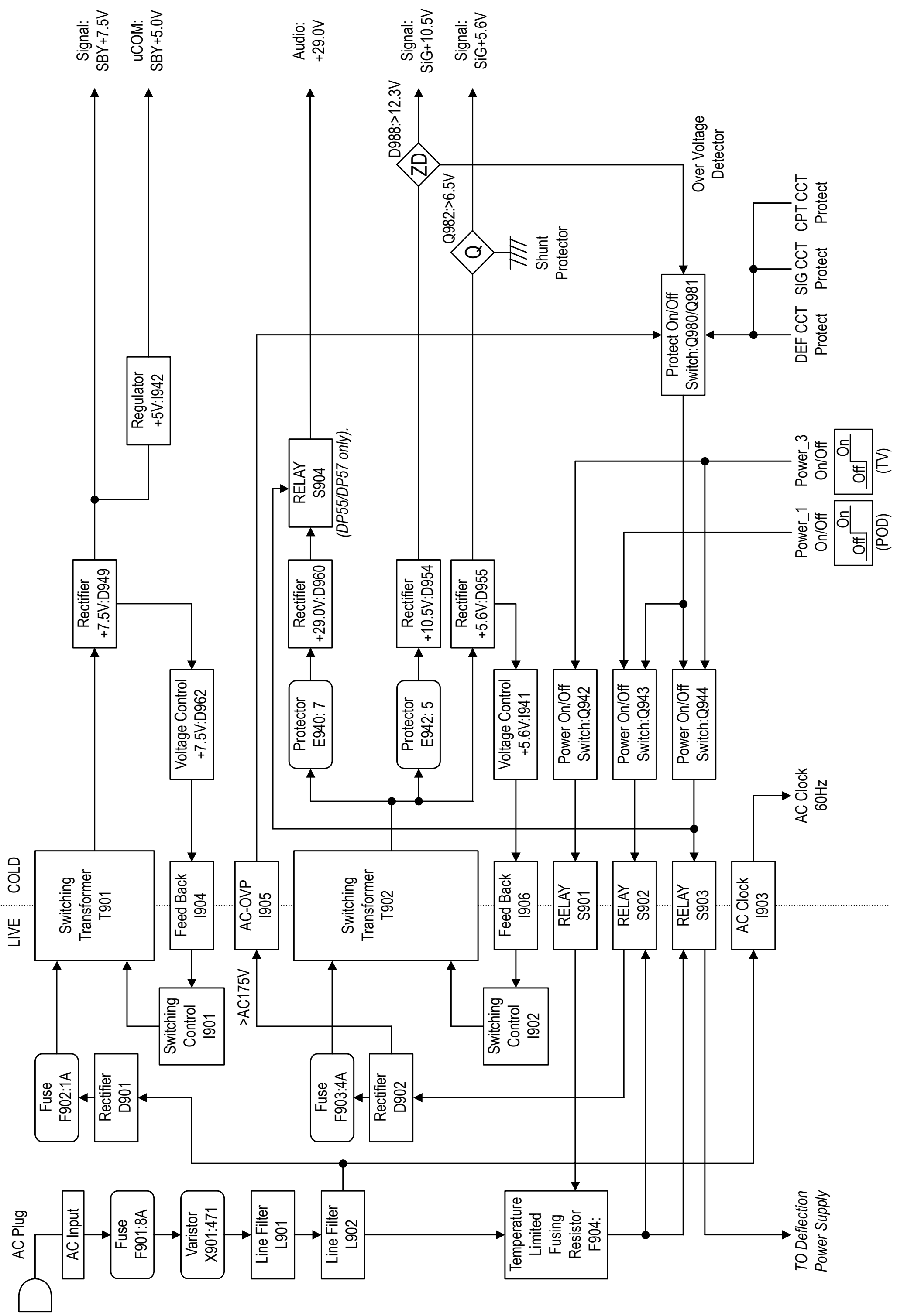
Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)			
			DP55			
HDMI	HDMI_1/2					
001	VSYNC/Clock detect/Sync detect 1	00～07	*	←	←	←
002	HDCP Status	00～FF	*	←	←	←
003	Pixel clock	00～FF	*	←	←	←
004	N hardware value 1 Low 7 bit	00～FF	*	←	←	←
005	N hardware value 1 Middle 7 bit	00～FF	*	←	←	←
006	N hardware value 1 High 4 bit	00～FF	*	←	←	←
007	CTS hardware value 1 Low 7 bit	00～FF	*	←	←	←
008	CTS hardware value 1 Middle 7 bit	00～FF	*	←	←	←
009	CTS hardware value 1 High 4 bit	00～FF	*	←	←	←
010	ACR PLL hardware value 1	00～FF	*	←	←	←
011	ACR PLL hardware value 1	00～3F	*	←	←	←
012	Extracted Sampling Frequency 1 channel status bits 24-27(same value at 0x30)	00～7F	*	←	←	←
013	Clock Accuracy/Sampling Frequency 1	00～FF	*	←	←	←
014	Audio length/Audio length max 1	00～FF	*	←	←	←
015	AV mute/HDMI mode 1	00～FF	*	←	←	←
016	AVI info frame type code 1	00～FF	*	←	←	←
017	AVI info frame version code 1	00～FF	*	←	←	←
018	AVI info frame data 1	00～FF	*	←	←	←
019		00～FF	*	←	←	←
020		00～FF	*	←	←	←
021		00～FF	*	←	←	←
022		00～FF	*	←	←	←

HDMI (2/2)

Adjustment Mode OSD	**Adjustment Item**	**Adjustment Range(HEX)**	**Initial Data(HEX)**			
			DP55			
HDMI	HDMI_1/2					
023	SPD info frame type code	00～FF	*	←	←	←
024	SPD info frame version code	00～FF	*	←	←	←
025	SPD info frame data	00～FF	*	←	←	←
026	AUDIO Info Frame Type Code 1	00～FF	*	←	←	←
027	AUDIO Info Frame Version Code 1	00～FF	*	←	←	←
028	AUDIO Info Frame Data Bytes 1	00～FF	*	←	←	←
029		00～FF	*	←	←	←
030		00～FF	*	←	←	←
031		00～FF	*	←	←	←
032		00～FF	*	←	←	←
033	GCP data	00～FF	*	←	←	←
034	ACP packet type code	00～FF	*	←	←	←
035	ACP type	00～FF	*	←	←	←
036	DVD-audio type dependent generation	00～FF	*	←	←	←
037	Audio copy information	00～FF	*	←	←	←
038	RGB to YCbCr range scaling	00～01	01	←	←	←
039	Back Porch Mode, Field 2 Position Adjustment	00～01	01	←	←	←
040	Matching Test to allow increment of stability counter.	00～01	00	←	←	←
041	RGB to YCbCr range scaling	00～01	01	←	←	←
042	Back Porch Mode, Field 2 Position Adjustment	00～01	01	←	←	←
043	Matching Test to allow increment of stability counter.	00～01	00	←	←	←

2.22 PROTECTION CIRCUIT BLOCK DIAGRAM 1/2

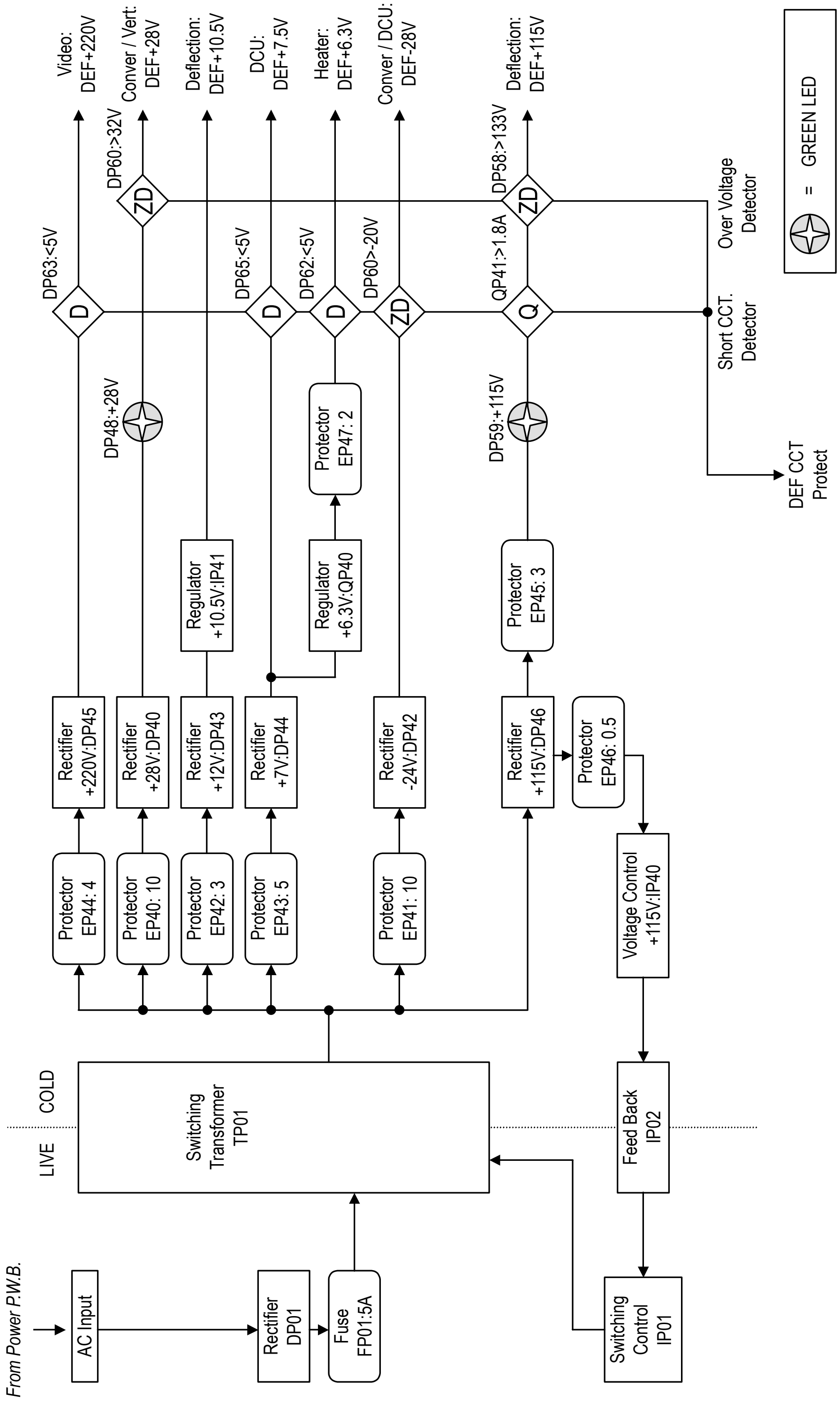
DP5X Protection Circuit Block Diagram (Power Supply)


LIVE
COLD
AC Plug
AC Input
Fuse F901:8A
Varistor X901:471
Line Filter L901
Line Filter L902
Temperature Limited Fusing Resistor F904:
Fuse F902:1A
Rectifier D901
Fuse F903:4A
Rectifier D902
Switching Control I901
Switching Control I902
>AC175V
Switching Transformer T901
Switching Transformer T902
Feed Back I904
AC-OVP I905
Feed Back I906
RELAY S901
RELAY S902
RELAY S903
AC Clock I903
AC Clock 60Hz
TO Deflection Power Supply
Voltage Control +7.5V:D962
Rectifier +7.5V:D949
Regulator +5V:I942
Signal: SBY+7.5V
uCOM: SBY+5.0V
Protector E940: 7
Rectifier +29.0V:D960
RELAY S904
(DP55/DP57 only).
Audio: +29.0V
Protector E942: 5
Rectifier +10.5V:D954
Rectifier +5.6V:D955
D988:>12.3V
ZD
Signal: SiG+10.5V
Q982:>6.5V
Q
Signal: SiG+5.6V
Shunt Protector
Over Voltage Detector
Voltage Control +5.6V:I941
Power On/Off Switch:Q942
Power On/Off Switch:Q943
Power On/Off Switch:Q944
Protect On/Off Switch:Q980/Q981
DEF CCT Protect
SIG CCT Protect
CPT CCT Protect
Power_1 On/Off
On
Off
(POD)
Power_3 On/Off
On
Off
(TV)

BACK TO ADJUSTMENTS

2.22 PROTECTION CIRCUIT BLOCK DIAGRAM 2/2

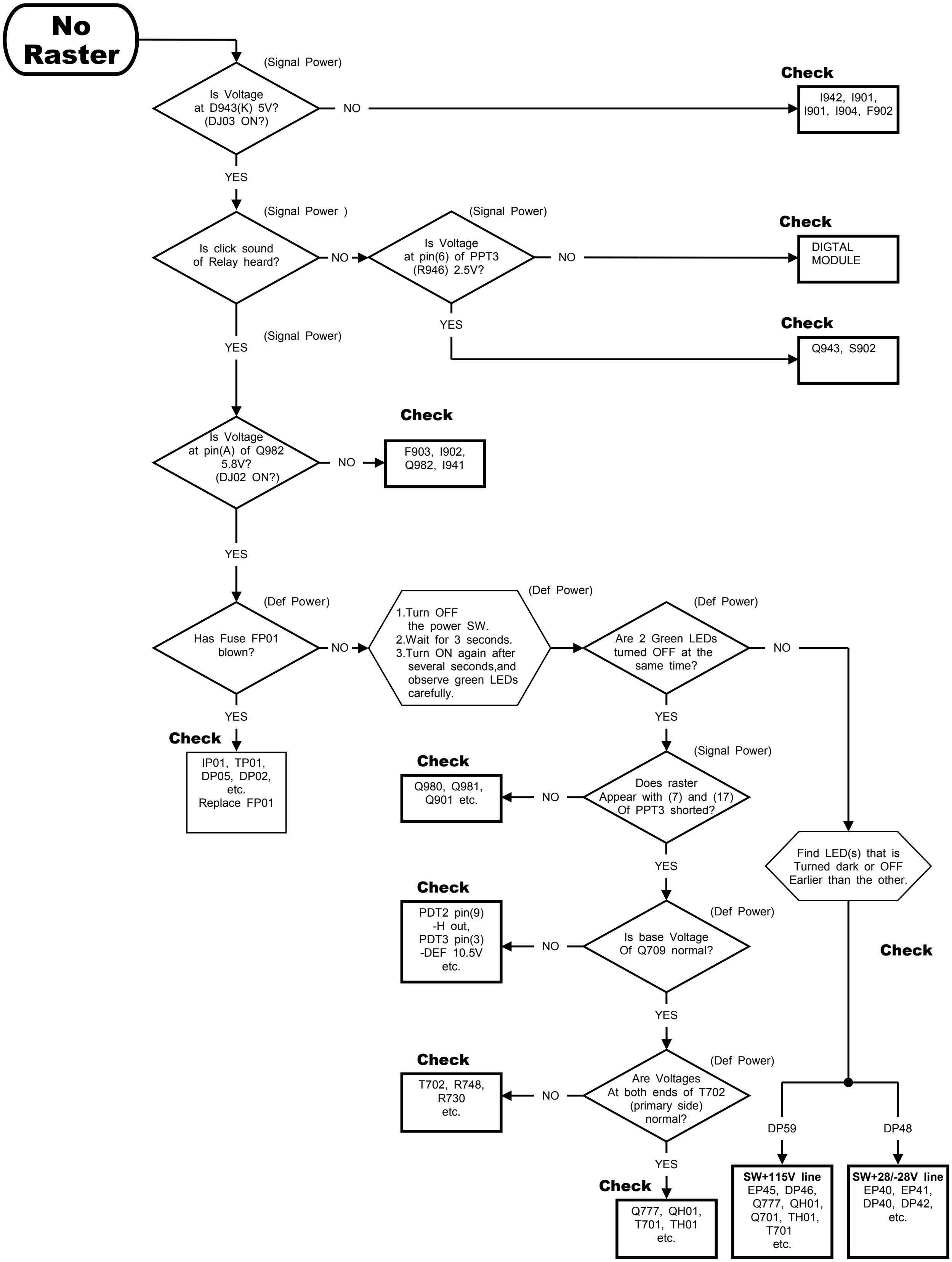
DP5X Protection Circuit Block Diagram (Deflection Power Supply)


From Power P.W.B.
AC Input
Rectifier DP01
Fuse FP01:5A
LIVE
COLD
Switching Transformer TP01
Switching Control IP01
Feed Back IP02
Voltage Control +115V:IP40
Protector EP46: 0.5
Protector EP44: 4
Protector EP40: 10
Protector EP42: 3
Protector EP43: 5
Protector EP41: 10
Rectifier +220V:DP45
Rectifier +28V:DP40
Rectifier +12V:DP43
Rectifier +7V:DP44
Rectifier -24V:DP42
Rectifier +115V:DP46
Regulator +10.5V:IP41
Regulator +6.3V:QP40
Protector EP47: 2
Protector EP45: 3
DP48:+28V
DP59:+115V
DP63:<5V
DP65:<5V
DP62:<5V
DP60>-20V
QP41:>1.8A
DP60:>32V
DP58:>133V
D
D
D
ZD
Q
ZD
ZD
Video: DEF+220V
Conver / Vert: DEF+28V
Deflection: DEF+10.5V
DCU: DEF+7.5V
Heater: DEF+6.3V
Conver / DCU: DEF-28V
Deflection: DEF+115V
Short CCT. Detector
Over Voltage Detector
DEF CCT Protect
= GREEN LED

2.23 TROUBLE SHOOTING

2.23.1 TROUBLE SHOOTING for POWER CIRCUIT

No raster and no power (How to check LED’s Diagnosis)


No Raster
(Signal Power)
Is Voltage at D943(K) 5V? (DJ03 ON?)
NO
Check
I942, I901, I901, I904, F902
YES
(Signal Power)
Is click sound of Relay heard?
NO
(Signal Power)
Is Voltage at pin(6) of PPT3 (R946) 2.5V?
NO
Check
DIGTAL MODULE
YES
Check
Q943, S902
YES
(Signal Power)
Is Voltage at pin(A) of Q982 5.8V? (DJ02 ON?)
NO
Check
F903, I902, Q982, I941
YES
(Def Power)
Has Fuse FP01 blown?
NO
(Def Power)
1.Turn OFF the power SW.
2.Wait for 3 seconds.
3.Turn ON again after several seconds,and observe green LEDs carefully.
(Def Power)
Are 2 Green LEDs turned OFF at the same time?
NO
YES
Check
IP01, TP01, DP05, DP02, etc. Replace FP01
YES
(Signal Power)
Does raster Appear with (7) and (17) Of PPT3 shorted?
NO
Check
Q980, Q981, Q901 etc.
Find LED(s) that is Turned dark or OFF Earlier than the other.
YES
(Def Power)
Is base Voltage Of Q709 normal?
NO
Check
PDT2 pin(9) -H out, PDT3 pin(3) -DEF 10.5V etc.
Check
YES
(Def Power)
Are Voltages At both ends of T702 (primary side) normal?
NO
Check
T702, R748, R730 etc.
DP59
DP48
YES
Check
Q777, QH01, T701, TH01 etc.
SW+115V line
EP45, DP46, Q777, QH01, Q701, TH01, T701 etc.
SW+28/-28V line
EP40, EP41, DP40, DP42, etc.

BACK TO ADJUSTMENTS

2.23.2 Device error check on DIGITAL MODULE

Digital Main P.W.B has five LED (KNIGHT RIDER) on board.
After Power ON by POWER_1(pin 6 of PPT3), these LED will be turned on in sequence as follows. It may take a few seconds for the sequence.

LED sequence

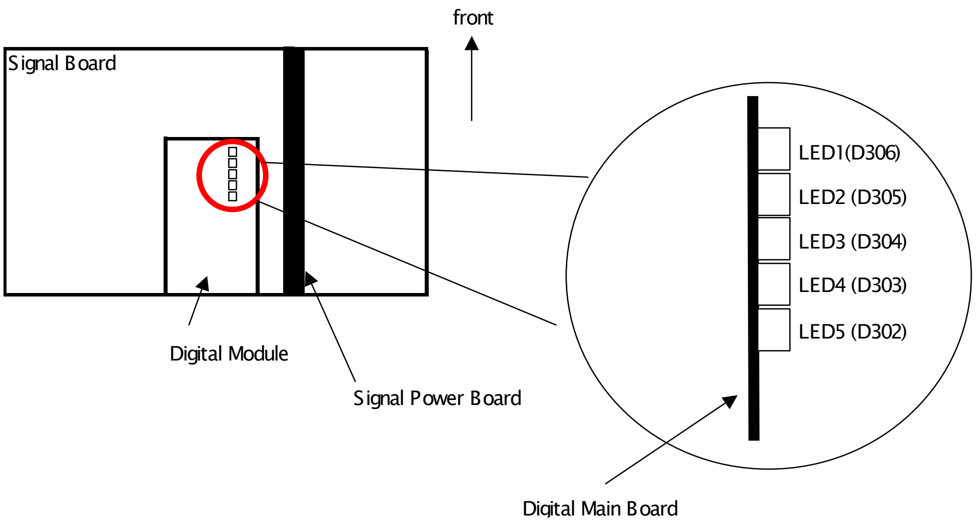
Sequence	D302 (Red)	D303 (Green)	D304 (Yellow)	D305 (Orange)	D306 (Red)
1 (Start)	○	○	○	○	●
2	○	○	○	●	●
3	○	○	●	●	●
4	○	●	●	●	●
5 (End)	○	○	○	○	○

○ is turn off the LED, ● is Lighting the LED

After Program is loaded without error, all LED will be turned off.
Any LED should not light.
If some errors occur, LED will show the error pattern.

(1) Check that LED is not lit.
(2) If LED is lit, refer to the following table on page 95-96 and check the involved devices.

Location of LEDs


front
Signal Board
Digital Module
Signal Power Board
LED1(D306)
LED2 (D305)
LED3 (D304)
LED4 (D303)
LED5 (D302)
Digital Main Board

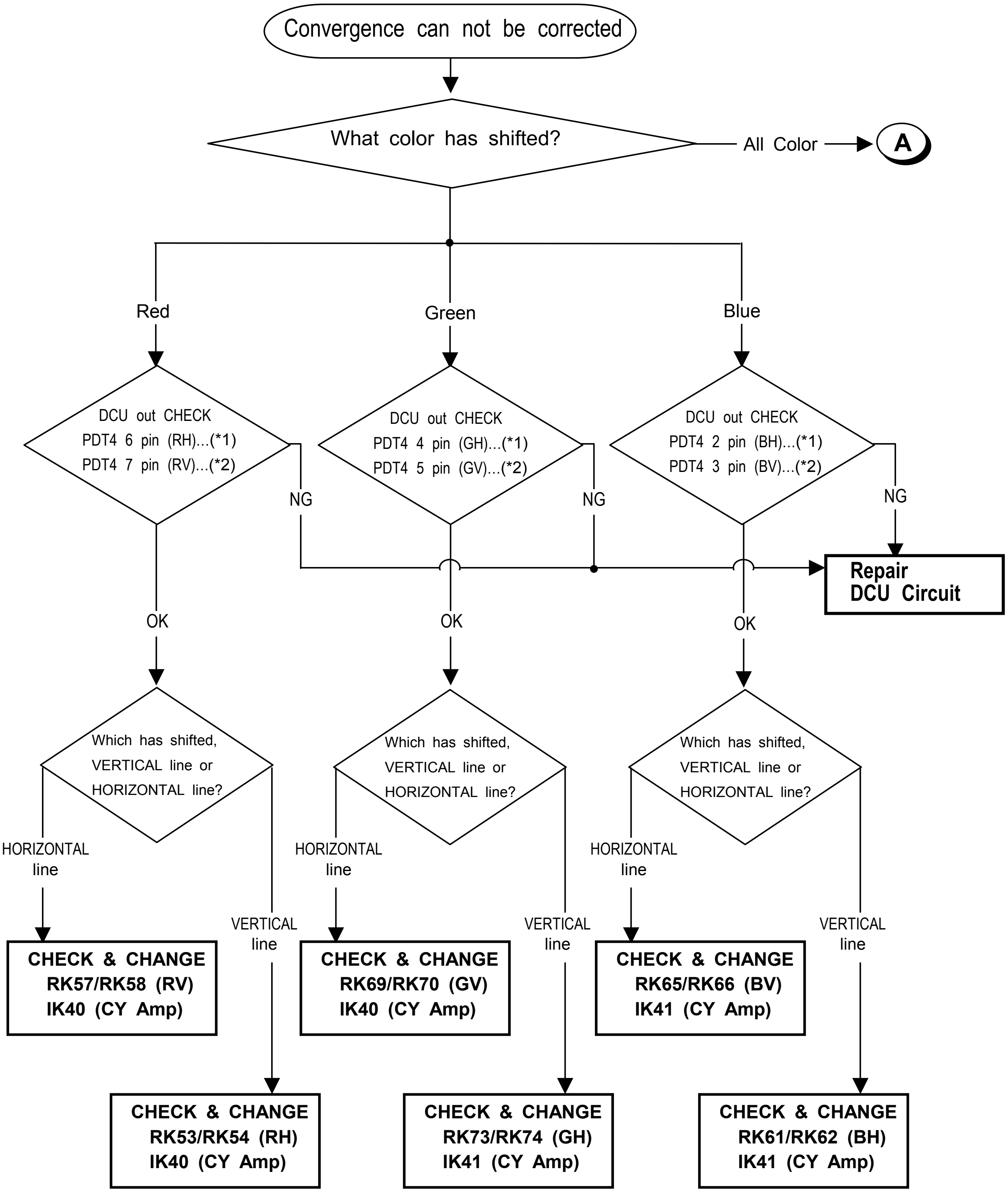
LED patterns for involved devices

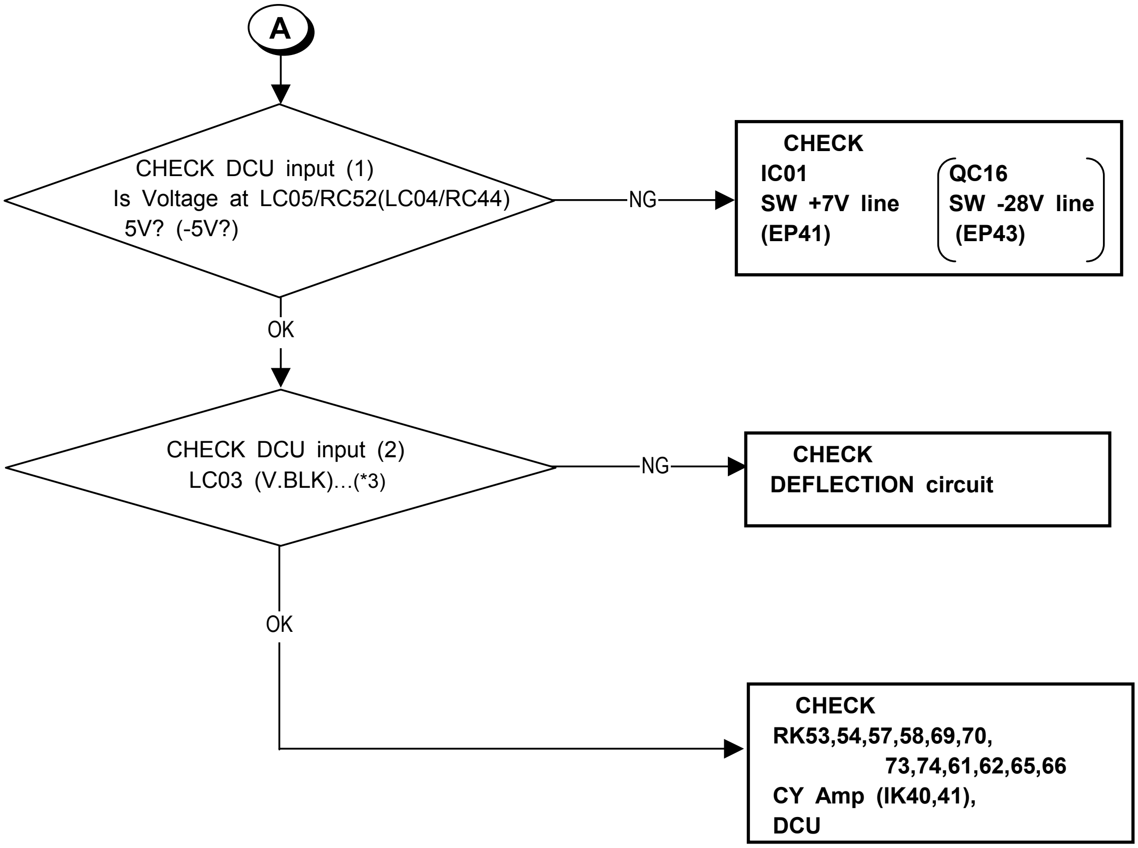
No.	LED					Device	Circuit No	
	D306 (Red)	D305 (Orange)	D304 (Green)	D303 (Yellow)	D302 (Red)			
1								
2	○	○	○	●	○	Digital Tuner		Video/Audio of Cable/Air
3	○	○	○	●	●	Analog Tuner		Video/Audio of Cable/Air
4	○	○	●	○	○	MPEG		Video/Audio of Cable/Air
5	○	○	●	○	●	Graphics		All OSD
6	○	○	●	●	○	Flash Memory		Loading Program
7								
8								
9								
10								
11								
12	○	●	●	○	○	Video Decoder (TC9010)		CCD etc.
13								
14	○	●	●	●	○	Audio DSP (AD9980)		Audio cont. SRS/BBE
15								
16	●	○	○	○	○	HDMI		HDMI
17	●	○	○	○	●	A/D Converter (AD9980)		Video
18	●	○	○	●	○	Sync Separator (CXA2211)		Sync
19								
20								

No.	LED					Device	Circuit No	Role
	D306 (Red)	D305 (Orange)	D304 (Green)	D303 (Yellow)	D302 (Red)			
21	●	○	●	○	●	RGB Processor (TA1360)	DP5X only	Picture Cont/ VM
22								
23								
24	●	●	○	○	○	Video SW		Video
25	●	●	○	○	●	Audio SW		Audio
26								
27								
28								
29								
30								
31								
32								

2.23.3 Trouble shooting for Convergence

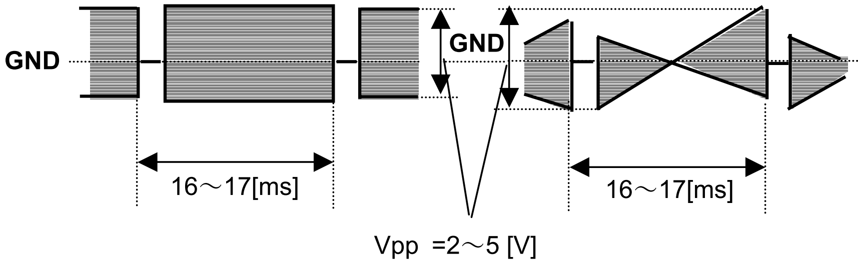
1.Convergence Un-corrected (How to check)


Convergence can not be corrected
What color has shifted?
All Color
A
Red
Green
Blue
DCU out CHECK
PDT4 6 pin (RH)...(*1)
PDT4 7 pin (RV)...(*2)
DCU out CHECK
PDT4 4 pin (GH)...(*1)
PDT4 5 pin (GV)...(*2)
DCU out CHECK
PDT4 2 pin (BH)...(*1)
PDT4 3 pin (BV)...(*2)
NG
NG
NG
Repair
DCU Circuit
OK
OK
OK
Which has shifted,
VERTICAL line or
HORIZONTAL line?
Which has shifted,
VERTICAL line or
HORIZONTAL line?
Which has shifted,
VERTICAL line or
HORIZONTAL line?
HORIZONTAL
line
HORIZONTAL
line
HORIZONTAL
line
VERTICAL
line
VERTICAL
line
VERTICAL
line
CHECK & CHANGE
RK57/RK58 (RV)
IK40 (CY Amp)
CHECK & CHANGE
RK69/RK70 (GV)
IK40 (CY Amp)
CHECK & CHANGE
RK65/RK66 (BV)
IK41 (CY Amp)
CHECK & CHANGE
RK53/RK54 (RH)
IK40 (CY Amp)
CHECK & CHANGE
RK73/RK74 (GH)
IK41 (CY Amp)
CHECK & CHANGE
RK61/RK62 (BH)
IK41 (CY Amp)

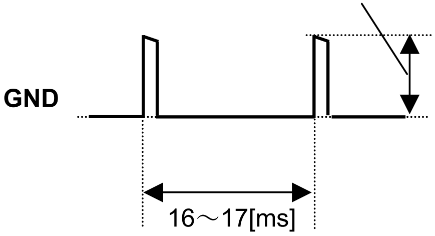

A
CHECK DCU input (1)
Is Voltage at LC05/RC52(LC04/RC44)
5V? (-5V?)
NG
CHECK
IC01
SW +7V line
(EP41)
QC16
SW -28V line
(EP43)
OK
CHECK DCU input (2)
LC03 (V.BLK)...(*3)
NG
CHECK
DEFLECTION circuit
OK
CHECK
RK53,54,57,58,69,70,
73,74,61,62,65,66
CY Amp (IK40,41),
DCU

(*1) PDT4 6 pin (RH)
PDT4 4 pin (GH)
PDT4 2 pin (BH)

(*2) PDT4 7 pin (RV)
PDT4 5 pin (GV)
PDT4 3 pin (BV)

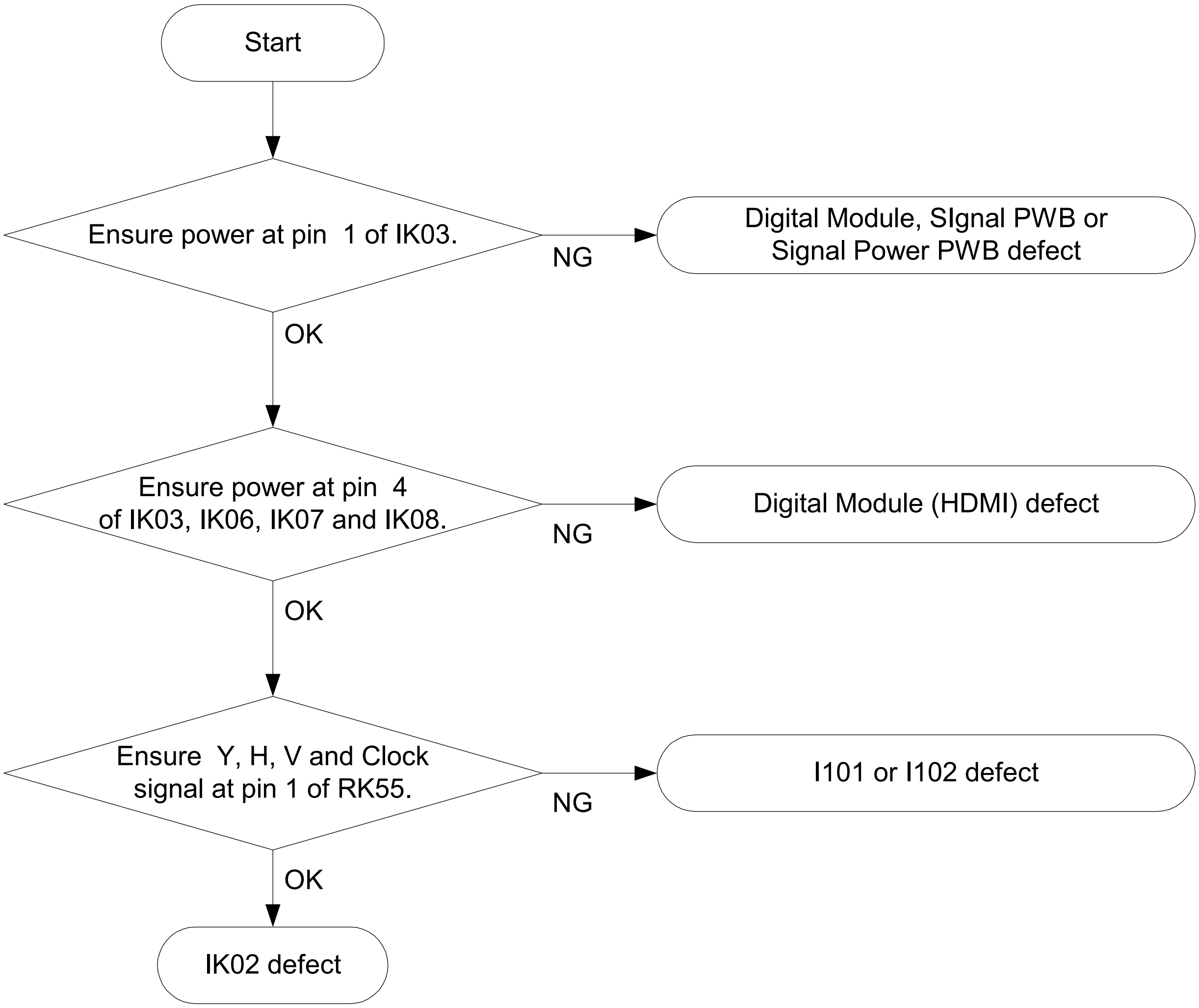

GND
16～17[ms]
GND
16～17[ms]
Vpp =2～5 [V]

(*3) LC03 (V. BLK.)

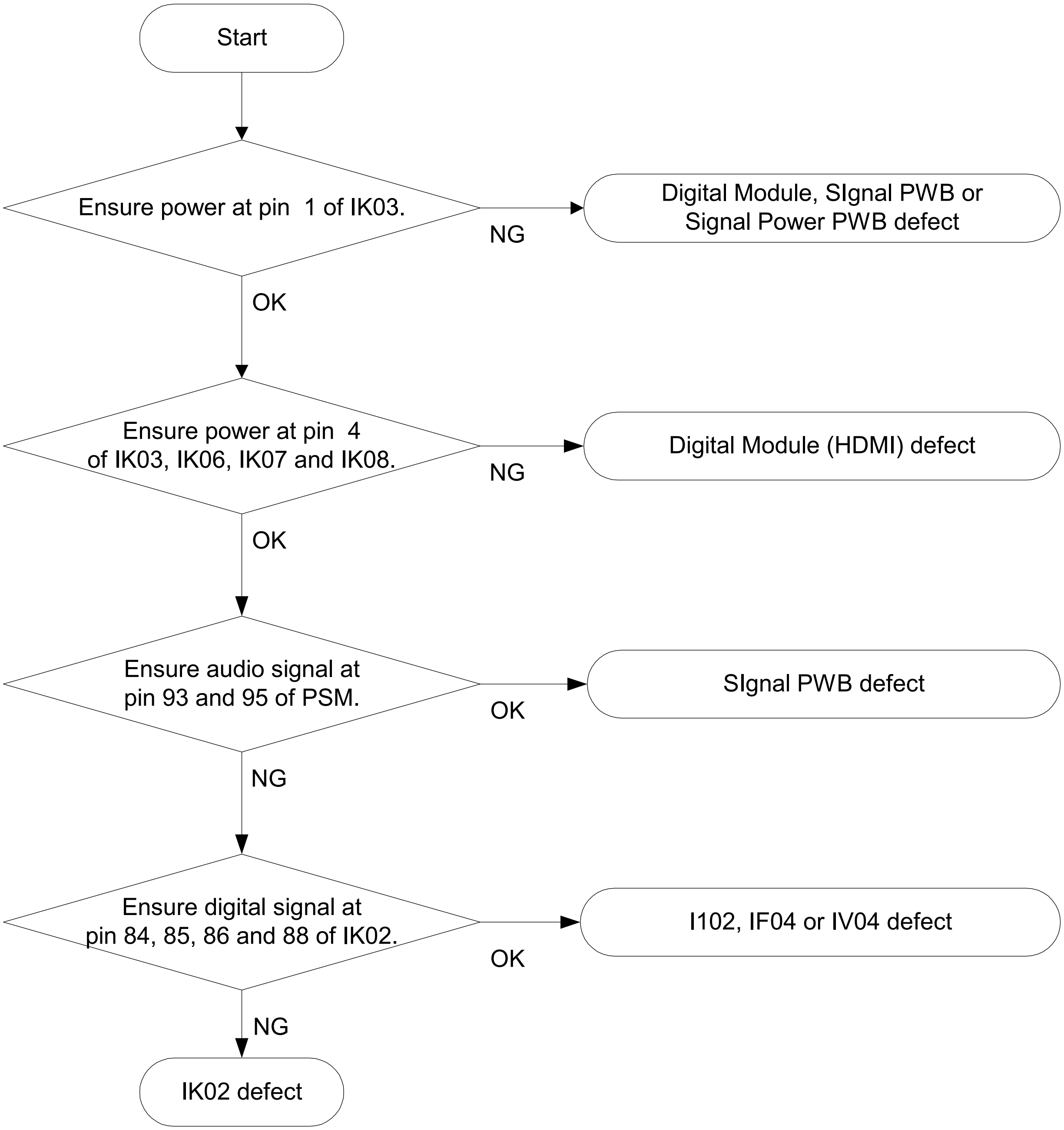

Vpp =4～5 [V]
GND
16～17[ms]

2.23.4 Trouble shooting for HDMI

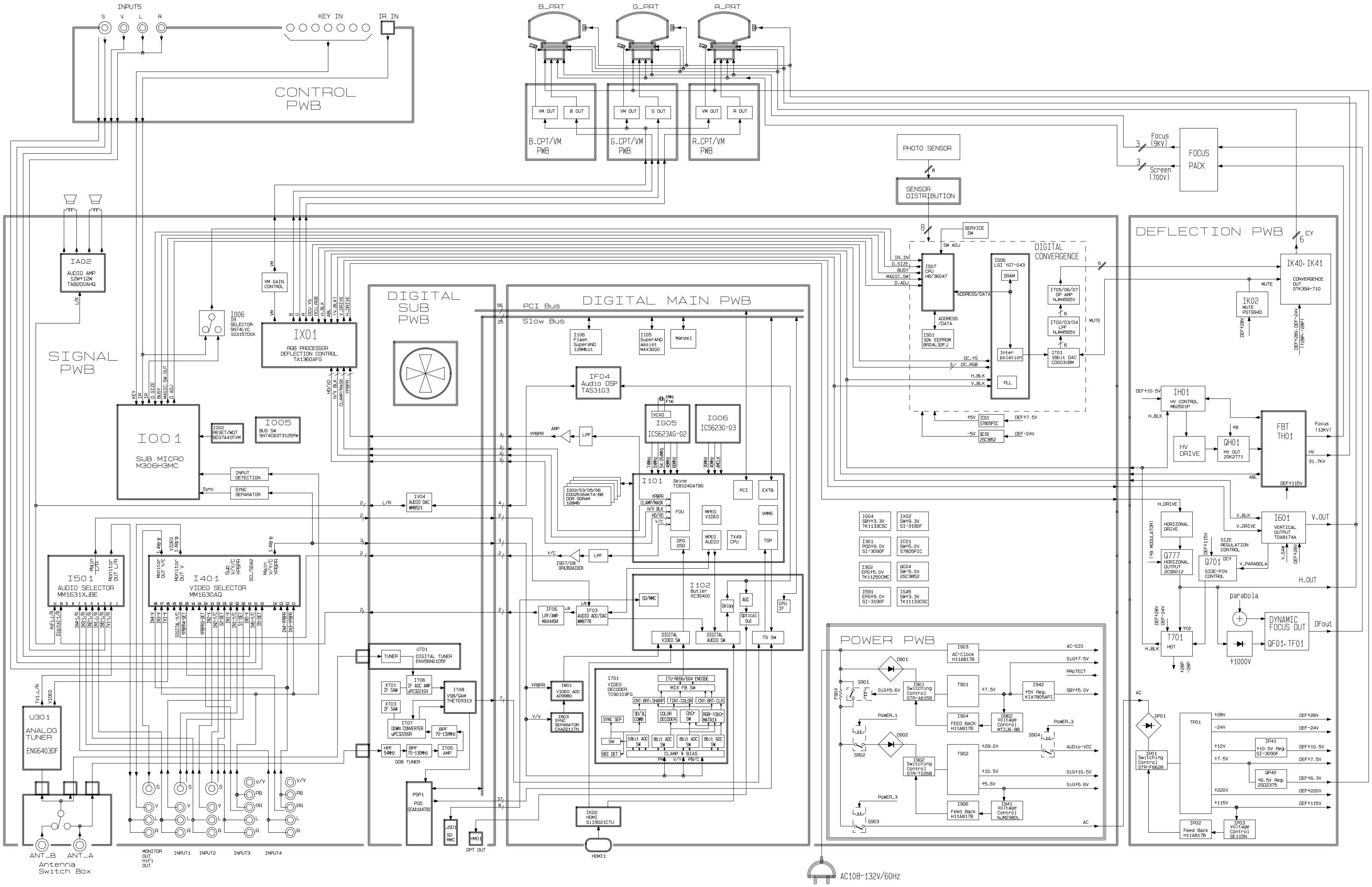
(1) No HDMI picture


Start
Ensure power at pin 1 of IK03.
NG
Digital Module, SIgnal PWB or Signal Power PWB defect
OK
Ensure power at pin 4 of IK03, IK06, IK07 and IK08.
NG
Digital Module (HDMI) defect
OK
Ensure Y, H, V and Clock signal at pin 1 of RK55.
NG
I101 or I102 defect
OK
IK02 defect

(2) No HDMI analog and/or digital audio


Start
Ensure power at pin 1 of IK03.
NG
Digital Module, SIgnal PWB or Signal Power PWB defect
OK
Ensure power at pin 4 of IK03, IK06, IK07 and IK08.
NG
Digital Module (HDMI) defect
OK
Ensure audio signal at pin 93 and 95 of PSM.
OK
SIgnal PWB defect
NG
Ensure digital signal at pin 84, 85, 86 and 88 of IK02.
OK
I102, IF04 or IV04 defect
NG
IK02 defect

CIRCUIT BLOCK DIAGRAM


INPUT5
S V L R
KEY IN
IR IN
CONTROL PWB
B_PRT
G_PRT
R_PRT
VM OUT
B OUT
G OUT
R OUT
B_CPT/VM PWB
G_CPT/VM PWB
R_CPT/VM PWB
PHOTO SENSOR
SENSOR DISTRIBUTION
Focus (9KV)
Screen (700V)
FOCUS PACK
SIGNAL PWB
IA02 AUDIO AMP 12W+12W TA8200AHQ
VM GAIN CONTROL
I006 IR SELECTOR SN74LVC 1G3157DCK
IX01 RGB PROCESSOR DEFLECTION CONTROL TA1360AFG
I001 SUB MICRO M306H3MC
I002 RESET/WDT BD37A41FVM
I005 BUS SW SN74CB3T3125PW
INPUT DETECTION
SYNC SEPARATOR
I501 AUDIO SELECTOR MM1631XJBE
I401 VIDEO SELECTOR MM1630AQ
U301 ANALOG TUNER ENG6403DF
ANT_B ANT_A
Antenna Switch Box
MONITOR OUT HiFi OUT
INPUT1 INPUT2 INPUT3 INPUT4
DIGITAL SUB PWB
DIGITAL MAIN PWB
PCI Bus
Slow Bus
I106 Flash SuperAND 128Mbit
I105 SuperAND assist MAX3000
Mansel
IF04 Audio DSP TAS3103
IG05 ICS623AG-02
IG06 ICS623G-03
I101 Seine TC81240ATBG
I202/03/05/06 EDD2516AKTA-6B DDR SDRAM 128MB
IV04 AUDIO DAC WM8521
I907/08 OPA360AIDCK
IF06 LPF/AMP MAX4494
IF03 AUDIO ADC/DAC WM8776
I102 Butler XC3S400
UT01 DIGITAL TUNER ENV56N01D5F
IT06 IF AGC AMP UPC3221GV
IT08 VSB/QAM THETER313
IT07 DOWN CONVERTER UPC3220GR
IT05 AMP
OOB TUNER
IB01 VIDEO ADC AD9980
IB03 SYNC SEPARATOR CXA2211TN
I701 VIDEO DECODER TC90103FG
PSP1 POD SCAA14A700
JSD1 SD MMC
HMO1 OPT OUT
IK02 HDMI SiI9021CTU
HDMI1
DIGITAL CONVERGENCE
IS07 CPU HB/36047
IS06 LSI YGT-043
SRAM
IS01 32K EEPROM BR24L32FJ
IT05/06/07 OP AMP NJM4565V
IT02/03/04 LPF NJM4565V
IT01 16bit DAC CD0031BM
Inter polation
PLL
IC01 S7805PIC
QC15 2SC3852
DEFLECTION PWB
IK40, IK41 CONVERGENCE OUT STK394-710
IK02 MUTE RST994D
IH01 HV CONTROL M62501P
HV DRIVE
QH01 HV OUT 2SK2771
FBT TH01
Focus (12KV)
HV 31.7KV
I601 VERTICAL OUTPUT TDA8174A
Q777 HORIZONTAL OUTPUT 2SC5012
Q701 SIDE-PIN CONTROL
T701 HOT
DYNAMIC FOCUS OUT QF01, TF01
+1000V
parabola
H_OUT
V_OUT
POWER PWB
I903 AC-Clock H11A817B
I901 Switching Control STR-A6159
I942 +5V Reg. KIA7805API
I904 FEED BACK H11A817B
D962 Voltage Control MTZJ6.8B
I902 Switching Control STR-T2268
I906 Feed Back H11A817B
I941 Voltage Control NJM2380L
IP01 Switching Control STR-F6628
TP01
IP02 Feed Back H11A817B
IP03 Voltage Control SE115N
IP41 +10.5V Reg. SI-3090F
QP40 +6.5V Reg. 2SD2375
AC108-132V/60Hz

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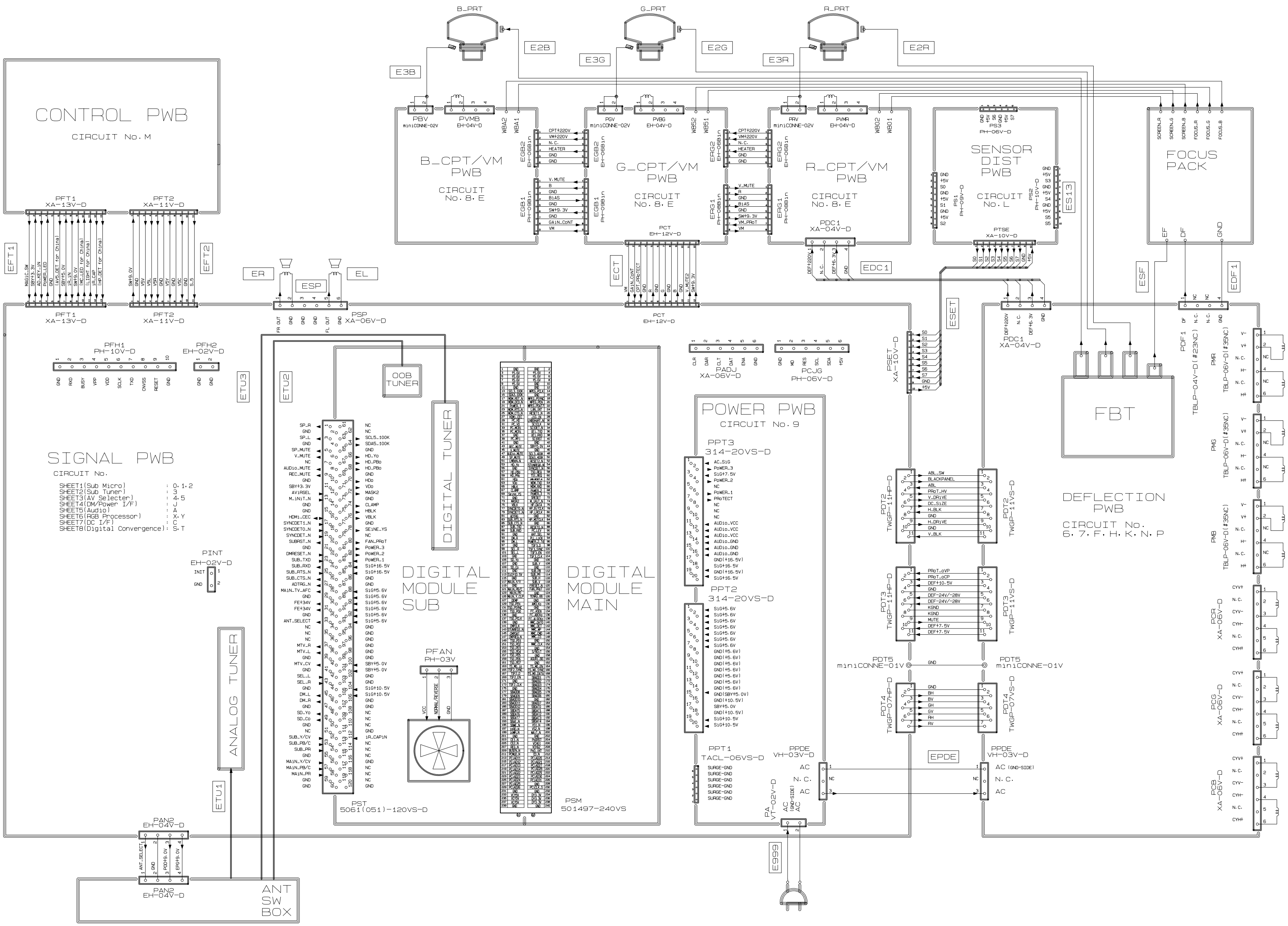
CONNECTION DIAGRAM


B_PRT
G_PRT
R_PRT
E2B
E2G
E2R
E3B
E3G
E3R
CONTROL PWB
CIRCUIT No. M
PFT1
XA-13V-D
PFT2
XA-11V-D
EFT1
EFT2
B_CPT/VM
PWB
CIRCUIT
No. 8. E
G_CPT/VM
PWB
CIRCUIT
No. 8. E
R_CPT/VM
PWB
CIRCUIT
No. 8. E
PBV
miniCONNE-02V
PVMB
EH-04V-D
PGV
miniCONNE-02V
PVMG
EH-04V-D
PRV
miniCONNE-02V
PVMR
EH-04V-D
WBA2
WBA1
WBG2
WBG1
WBR2
WBR1
EGB2
EH-09Bin
EGB1
PH-09Bin
EGG2
EH-09Bin
EGG1
PH-09Bin
EGR2
EH-09Bin
EGR1
PH-09Bin
CPT+220V
VM+220V
N.C.
HEATER
GND
V.MUTE
B
G
R
B1AS
SW+9.3V
GAIN_CONT
VM
VM_PROT
PCT
EH-12V-D
ECT
PDC1
XA-04V-D
EDC1
SENSOR
DIST
PWB
CIRCUIT
No. L
PS3
PH-06V-D
PS1
PH-09V-D
PS2
PH-10V-D
ES13
PTSE
XA-10V-D
FOCUS
PACK
SCREEN_R
SCREEN_G
SCREEN_B
FOCUS_R
FOCUS_G
FOCUS_B
EF
DF
GND
ESF
EDF1
ER
EL
ESP
PSP
XA-06V-D
ESET
PSET
XA-10V-D
PDF1
TBLP-04V-D(#23NC)
PMR
TBLP-06V-D(#35NC)
PMG
TBLP-06V-D(#35NC)
PMB
TBLP-06V-D(#35NC)
PCR
XA-06V-D
PCG
XA-06V-D
PCB
XA-06V-D
FBT
DEFLECTION
PWB
CIRCUIT No.
6. 7. F. H. K. N. P
PFH1
PH-10V-D
PFH2
EH-02V-D
ETU3
ETU2
OOB
TUNER
DIGITAL TUNER
SIGNAL PWB
CIRCUIT No.
SHEET1(Sub Micro) : 0. 1. 2
SHEET2(Sub Tuner) : 3
SHEET3(AV Selecter) : 4. 5
SHEET4(DM/Power I/F) : J
SHEET5(Audio) : A
SHEET6(RGB Processor) : X. Y
SHEET7(DC I/F) : C
SHEET8(Digital Convergence) : S. T
PINT
EH-02V-D
INIT
GND
ANALOG TUNER
ETU1
DIGITAL
MODULE
SUB
DIGITAL
MODULE
MAIN
PFAN
PH-03V
VCC
NORMAL/REVERSE
GND
PST
5061(051)-120VS-D
PSM
501497-240VS
PADJ
XA-06V-D
PCJG
PH-06V-D
POWER PWB
CIRCUIT No. 9
PPT3
314-20VS-D
PPT2
314-20VS-D
PPT1
TACL-06VS-D
PPDE
VH-03V-D
PA
VT-02V-D
E999
AC
N. C.
AC(GND-SIDE)
SURGE-GND
PDT2
TWGP-11HP-D
PDT2
TWGP-11VS-D
PDT3
TWGP-11HP-D
PDT3
TWGP-11VS-D
PDT5
miniCONNE-01V
PDT4
TWGP-07HP-D
PDT4
TWGP-07VS-D
EPDE
PAN2
EH-04V-D
ANT_SELECT
GND
PDEH9.0V
EPEH9.0V
ANT
SW
BOX

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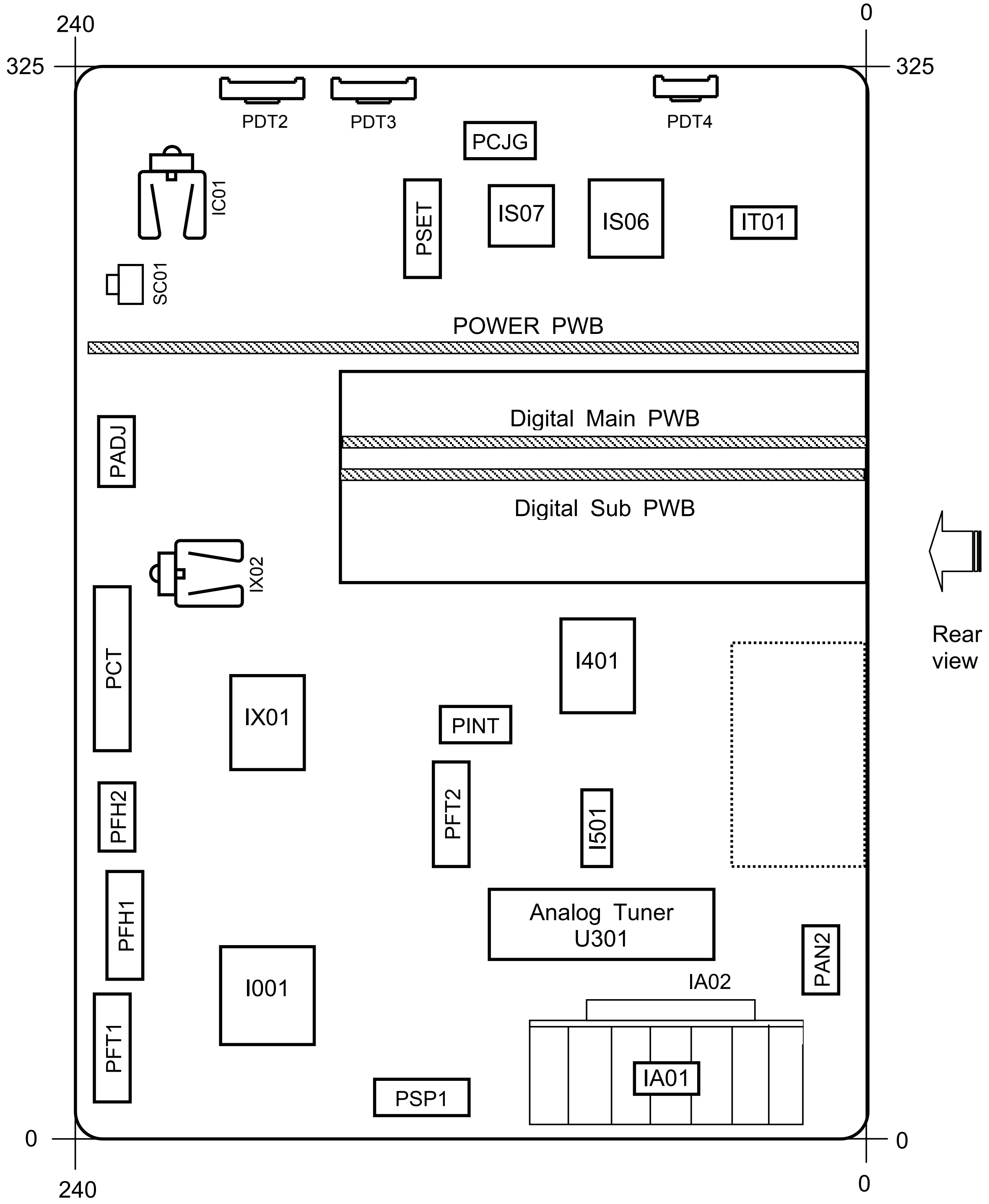
COMPONENT LOCATION DRAWING

SIGNAL BLOCK ASSEMBLY


240
0
325
325
PDT2
PDT3
PDT4
PCJG
IC01
PSET
IS07
IS06
IT01
SC01
POWER PWB
Digital Main PWB
Digital Sub PWB
PADJ
IX02
Rear view
PCT
IX01
I401
PINT
PFH2
PFT2
I501
PFH1
Analog Tuner U301
IA02
PAN2
I001
PFT1
IA01
PSP1
0
0
240
0

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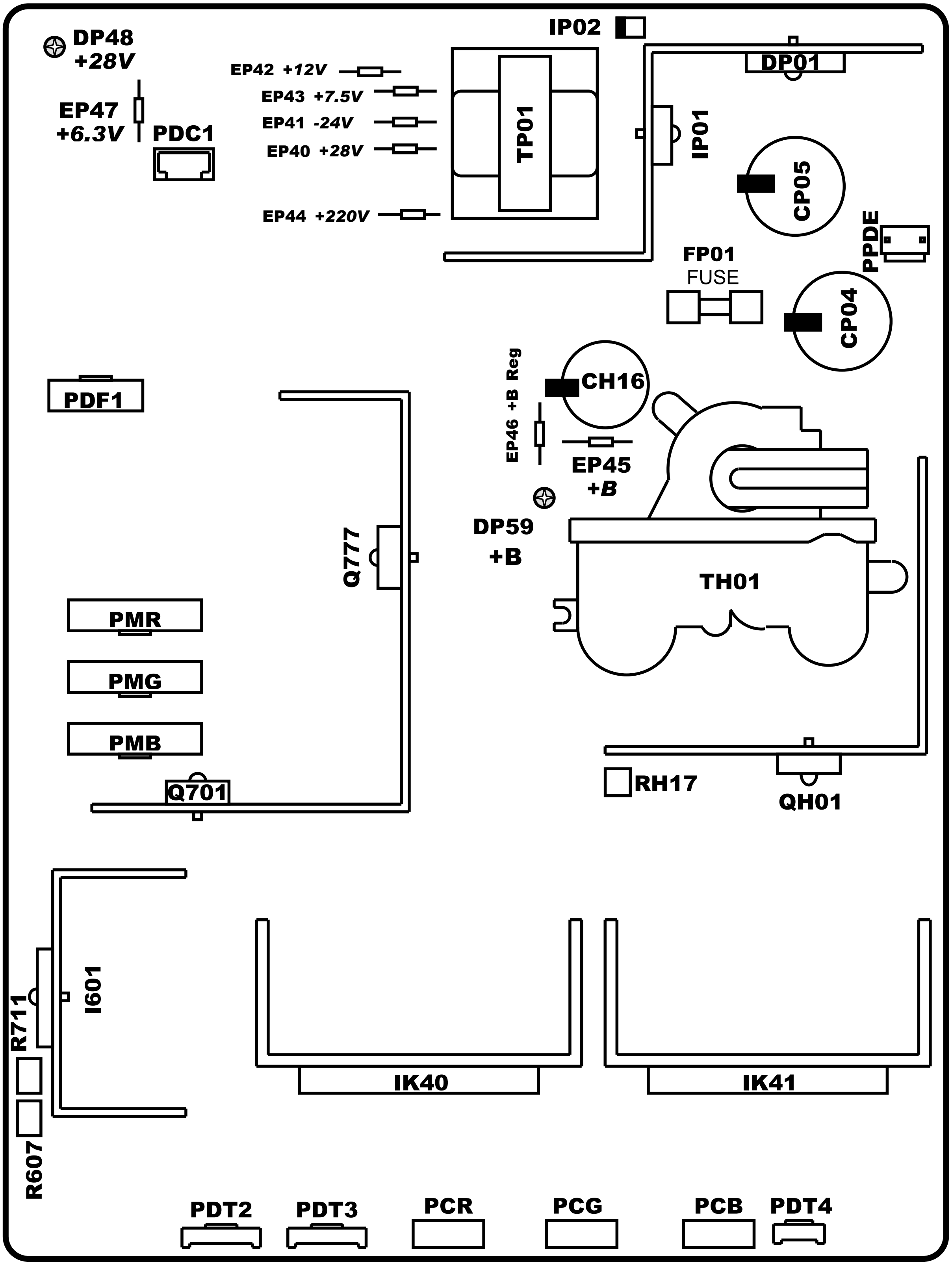
DEFLECTION BLOCK ASY


DP48
+28V
EP47
+6.3V
PDC1
EP42 +12V
EP43 +7.5V
EP41 -24V
EP40 +28V
EP44 +220V
TP01
IP02
DP01
IP01
CP05
PPDE
FP01
FUSE
CP04
CH16
EP46 +B Reg
EP45
+B
DP59
+B
PDF1
Q777
TH01
PMR
PMG
PMB
Q701
RH17
QH01
R711
I601
R607
IK40
IK41
PDT2
PDT3
PCR
PCG
PCB
PDT4

Back Cover Side

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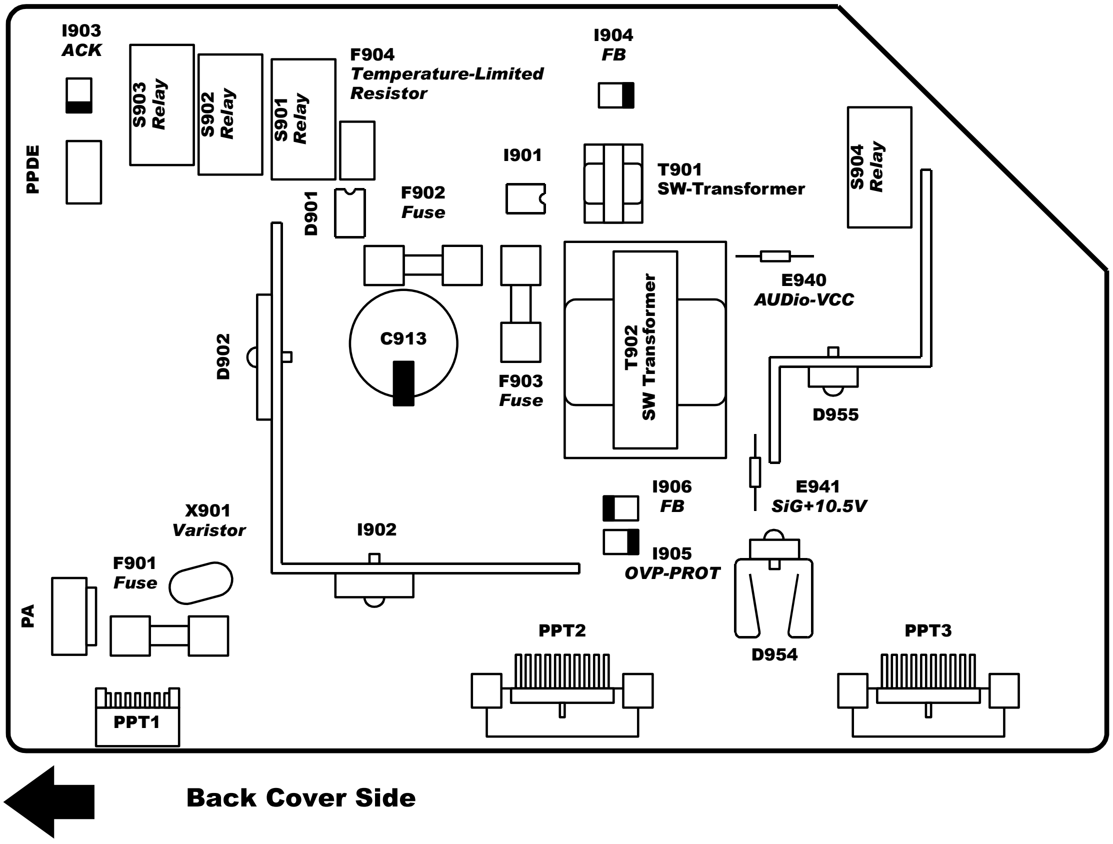
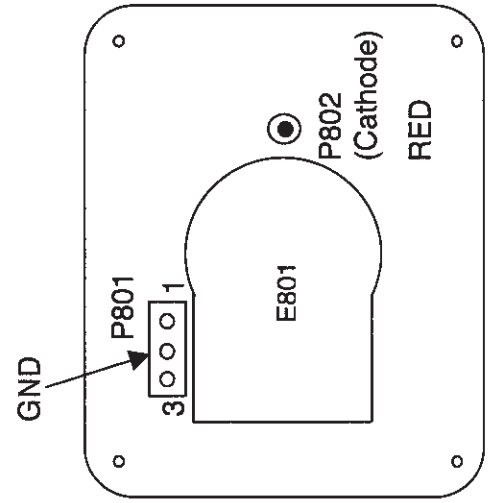
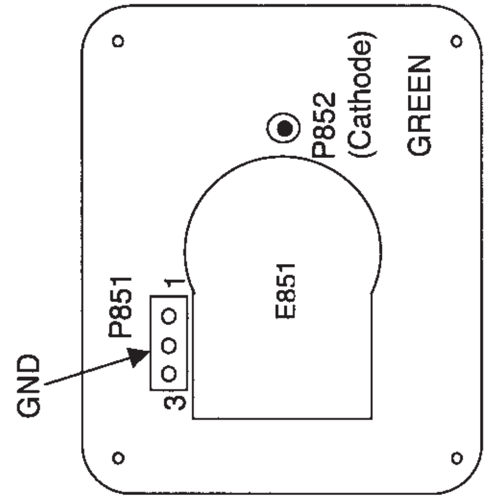
POWER P.W.B.

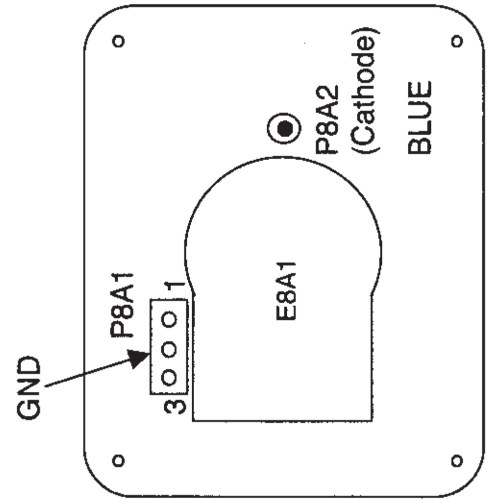
DP5X POWER P.W.B.

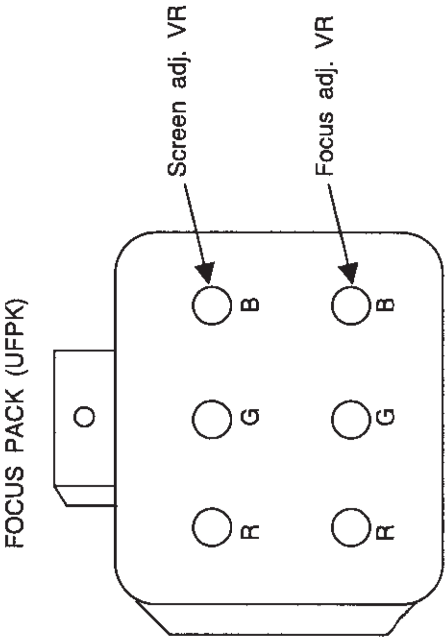

I903
ACK
S903 Relay
S902 Relay
S901 Relay
F904
Temperature-Limited
Resistor
I904
FB
PPDE
I901
T901
SW-Transformer
S904 Relay
D901
F902
Fuse
E940
AUDio-VCC
D902
C913
F903
Fuse
T902
SW Transformer
D955
I906
FB
E941
SiG+10.5V
X901
Varistor
I902
I905
OVP-PROT
F901
Fuse
PA
PPT2
PPT3
D954
PPT1
Back Cover Side

CPT P.W.B.


GND
P801
3
1
E801
P802
(Cathode)
RED

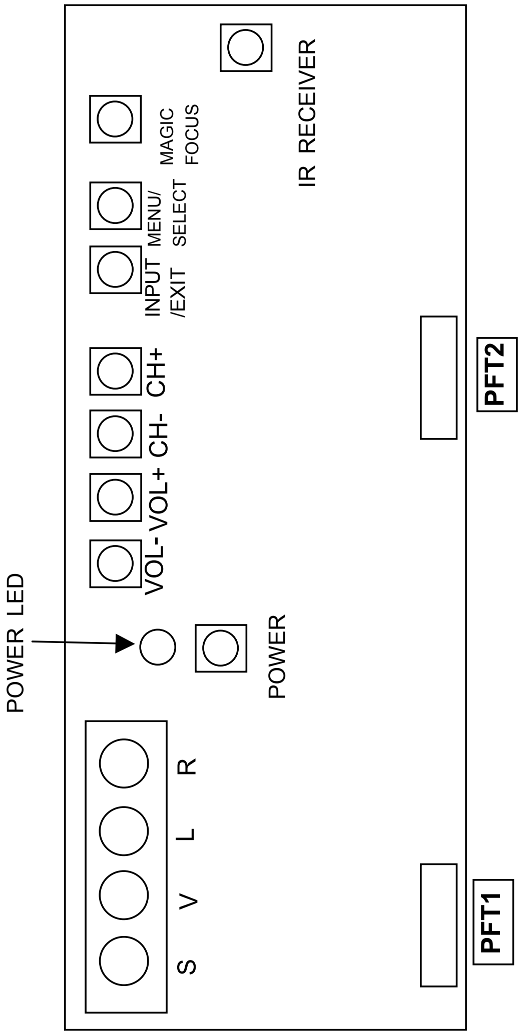

GND
P851
3
1
E851
P852
(Cathode)
GREEN


GND
P8A1
3
1
E8A1
P8A2
(Cathode)
BLUE

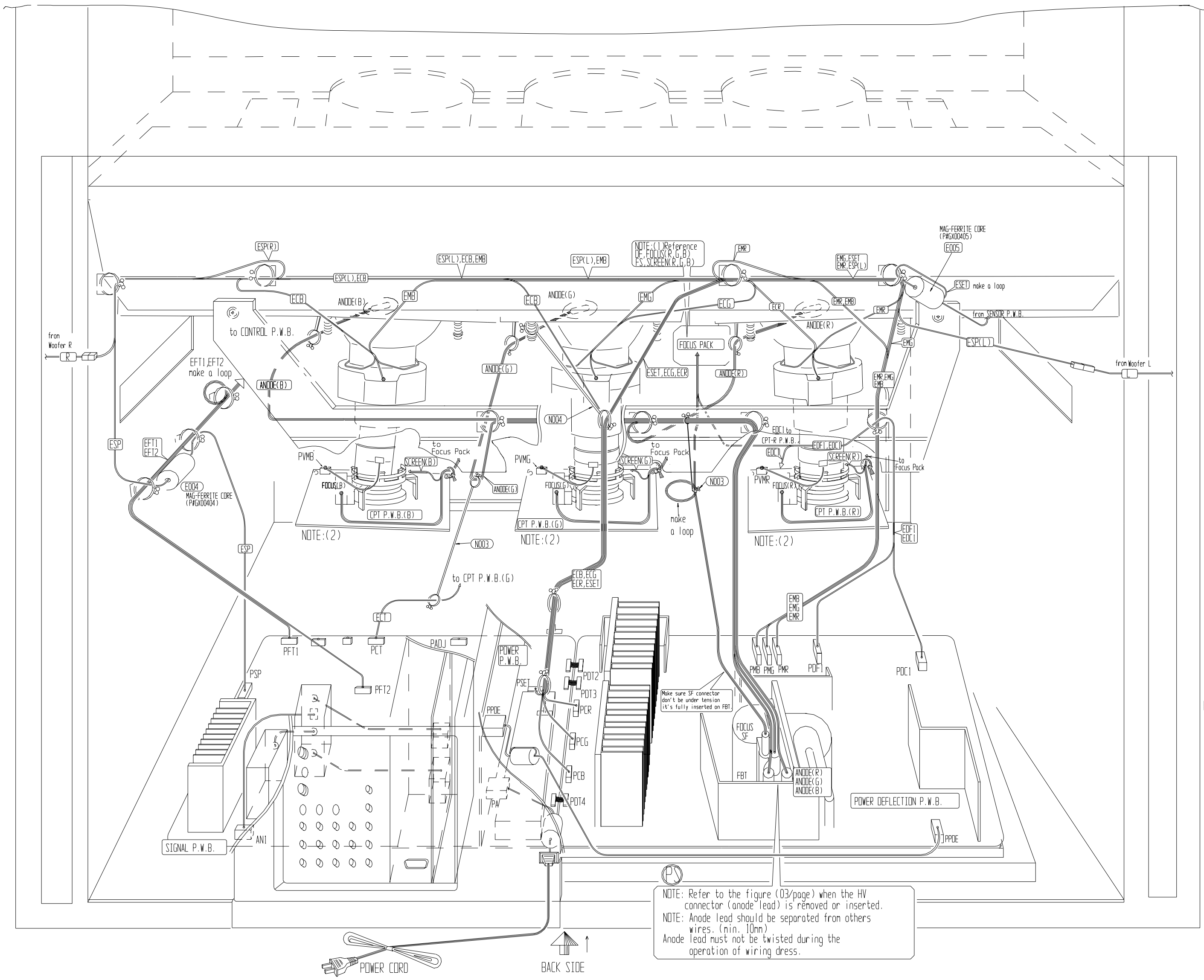

FOCUS PACK (UFPK)
Screen adj. VR
Focus adj. VR
B
G
R
B
G
R

FOCUS PACK

CONTROL P.W.B.


POWER LED
POWER
VOL-
VOL+
CH-
CH+
INPUT
/EXIT
MENU/
SELECT
MAGIC
FOCUS
IR RECEIVER
S
V
L
R
PFT1
PFT2

FINAL WIRING DIAGRAM

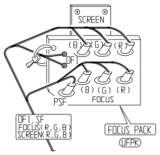

ESP(R)
ESP(L),ECB,EMB
ESP(L),EMB
ESP(L),ECB
NOTE:(1)Reference
DF,FOCUS(R,G,B)
FS,SCREEN(R,G,B)
EMR
EMG,ESET
EMR,ESP(L)
MAG-FERRITE CORE
(P#GX00405)
E005
ESET make a loop
from SENSOR P.W.B.
ESP(L)
from Woofer L
L
from Woofer R
R
ECB
ANODE(B)
EMB
ECB
ANODE(G)
EMG
ECG
ECR
EMR,EMB
EMR
ANODE(R)
EMG
to CONTROL P.W.B.
EFT1,EFT2
make a loop
ANODE(B)
ANODE(G)
FOCUS PACK
ESET,ECG,ECR
ANODE(R)
EMR,EMG
EMB
ESP
EFT1
EFT2
E004
MAG-FERRITE CORE
(P#GX00404)
N004
PVMB
to
Focus Pack
SCREEN(B)
FOCUS(B)
ANODE(G)
CPT P.W.B.(B)
NOTE:(2)
PVMG
SCREEN(G)
FOCUS(G)
to
Focus Pack
CPT P.W.B.(G)
NOTE:(2)
EDC1 to
CPT-R P.W.B.
EDF1,EDC1
EDC1
SCREEN(R)
to
Focus Pack
PVMR
FOCUS(R)
CPT P.W.B.(R)
N003
make
a loop
NOTE:(2)
EDF1
EDC1
ESP
N003
to CPT P.W.B.(G)
ECB,ECG
ECR,ESET
ECT
EMB
EMG
EMR
PFT1
PCT
PADJ
POWER
P.W.B.
PMB PMG PMR
PDF1
PDC1
PSP
PFT2
PPDE
PSET
PDT2
PDT3
PCR
PCG
PCB
PDT4
PA
FOCUS
SF
FBT
ANODE(R)
ANODE(G)
ANODE(B)
POWER DEFLECTION P.W.B.
PPDE
SIGNAL P.W.B.
AN1
PS
POWER CORD
BACK SIDE

Make sure SF connector
don't be under tension
it's fully inserted on FBT.

NOTE: Refer to the figure (03/page) when the HV
connector (anode lead) is removed or inserted.
NOTE: Anode lead should be separated from others
wires. (min. 10mm)
Anode lead must not be twisted during the
operation of wiring dress.

NOTE:(1)

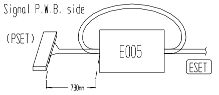
Refer to the figure below about
assembly of FOCUS PACK leads.


SCREEN
(B) (G) (R)
DF1
(B) (G) (R)
PSF
FOCUS
DF1, SF
FOCUS(R,G,B)
SCREEN(R,G,B)
FOCUS PACK
(UFPK)

NOTE:(2)

Connector "VMR","VMG" and "VMB"
should be connected before CPT
P.W.B is inserted to PRT.

PREPARATION JOB.


Signal P.W.B. side
(PSET)
E005
ESET
730mm

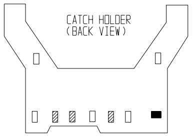
NOTE:(3)

Adjust the slack of a speaker line
by the speaker side.

NOTE:(4)

Even if 300g power is applied
to a wire and wiring dress style
is changed,all wires should not
be contact to a hih temperature,
sharp edge and high voltage parts.

NOTE:(6)


CATCH HOLDER
(BACK VIEW)

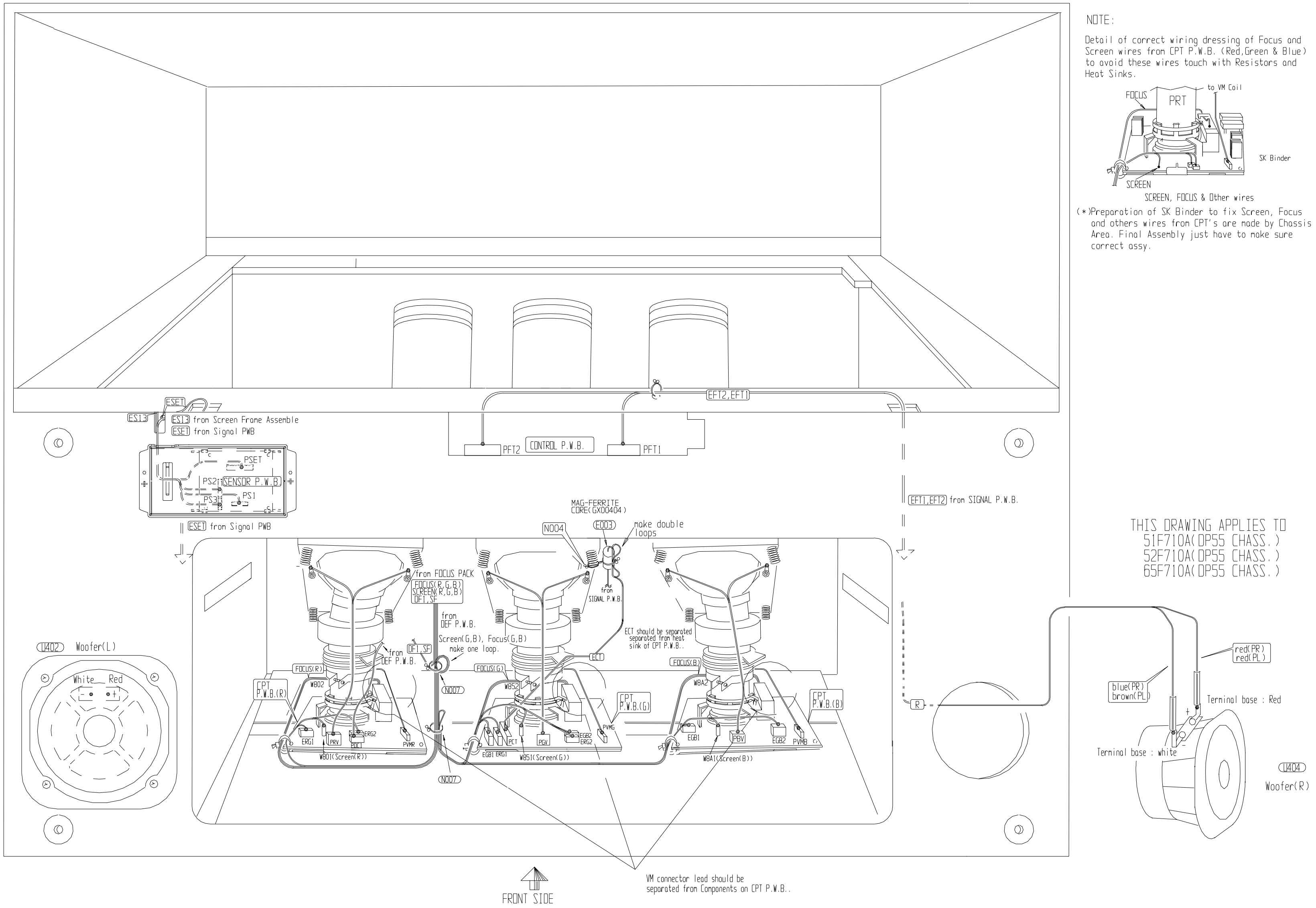
▨ MARK SHOULD BE APPLY A LEAD CLAMP(N310)
(LEAD CLAMP PARTS No.3875511)

█ MARK SHOULD BE APPLY A LEAD CLAMP(N008)
(LEAD CLAMP PARTS No.3813121)

THIS DRAWING APPLIES TO

THIS DRAWING APPLIES TO
51F710A(DP55 CHASS.)
52F710A(DP55 CHASS.)
65F710A(DP55 CHASS.)

FINAL WIRING DIAGRAM


ESET
ES13
ES13 from Screen Frame Assemble
ESET from Signal PWB
PSET
PS2
SENSOR P.W.B.
PS3
PS1
ESET from Signal PWB
PFT2
CONTROL P.W.B.
PFT1
EFT2,EFT1
EFT1,EFT2 from SIGNAL P.W.B.
MAG-FERRITE
CORE(GX00404)
N004
E003
make double
loops
from
SIGNAL P.W.B.
from FOCUS PACK
FOCUS(R,G,B)
SCREEN(R,G,B)
DF1,SF
from
DEF P.W.B.
Screen(G,B), Focus(G,B)
make one loop.
from
DEF P.W.B.
DF1,SF
ECT should be separated
separated from heat
sink of CPT P.W.B..
ECT
N007
N007
U402
Woofer(L)
White
Red
-
+
FOCUS(R)
CPT
P.W.B.(R)
W802
ERG1
PRV
PDC1
ERG2
PVMR
W801(Screen(R))
FOCUS(G)
W852
CPT
P.W.B.(G)
PVMG
EGB1
ERG1
PCT
PGV
EGB2
ERG2
W851(Screen(G))
FOCUS(B)
W8A2
CPT
P.W.B.(B)
EGB1
PBV
EGB2
PVMB
W8A1(Screen(B))
R
red(PR)
red(PL)
blue(PR)
brown(PL)
Terminal base : Red
Terminal base : white
+
-
U404
Woofer(R)
FOCUS
PRT
to VM Coil
SK Binder
SCREEN
FRONT SIDE

NOTE:

Detail of correct wiring dressing of Focus and Screen wires from CPT P.W.B. (Red,Green & Blue) to avoid these wires touch with Resistors and Heat Sinks.

SCREEN, FOCUS & Other wires

(*)Preparation of SK Binder to fix Screen, Focus and others wires from CPT's are made by Chassis Area. Final Assembly just have to make sure correct assy.

THIS DRAWING APPLIES TO
51F710A(DP55 CHASS.)
52F710A(DP55 CHASS.)
65F710A(DP55 CHASS.)

VM connector lead should be separated from Components on CPT P.W.B..

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FINAL WIRING DIAGRAM

CAUTIONS WHEN CONNECTING/DIS CONNECTING THE HV CONNECTOR

During Removal

1. Roll out silicon cover from FBT's contact area slowly.
2. While turning the connector about 90 degrees following the arrow (0 position). push the connector slightly towards the case. (Fig.A)

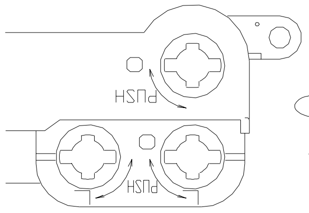


Fig. A

3. Pemove the connector slowly by pulling it away from the case.

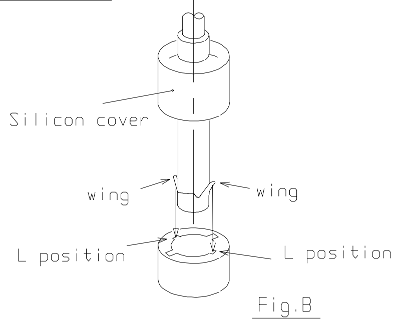

Silicon cover
wing
wing
L position
L position

Fig.B

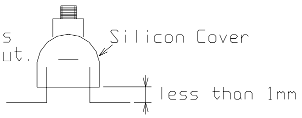
PS process

During Insertion

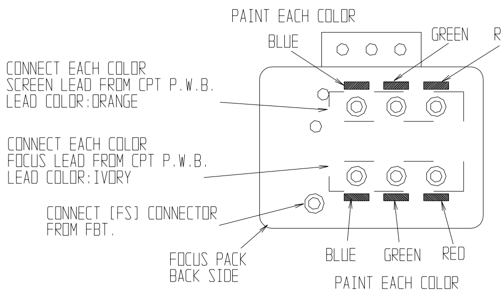
1. Please refer to direction for insertion as shown in Fig.B (L position) Insert connector till "CLICK" sound is heard.
2. Make sure the connector is pressed right in, so that it has a good contact with the spring.
3. Confirm the contact by pulling the connector slightly. (Don't pull hard because it may damage the connector.)
4. Cover the high voltage output by carefully pushing silicon cover on to it. (Don't turn the connector.)

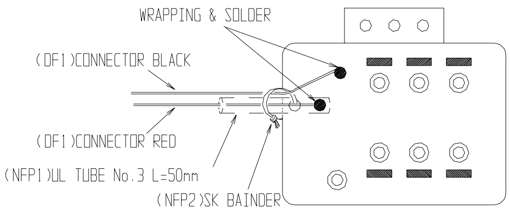
(REMARK)

1. Make sure the silicon cover is covered the high voltage output.

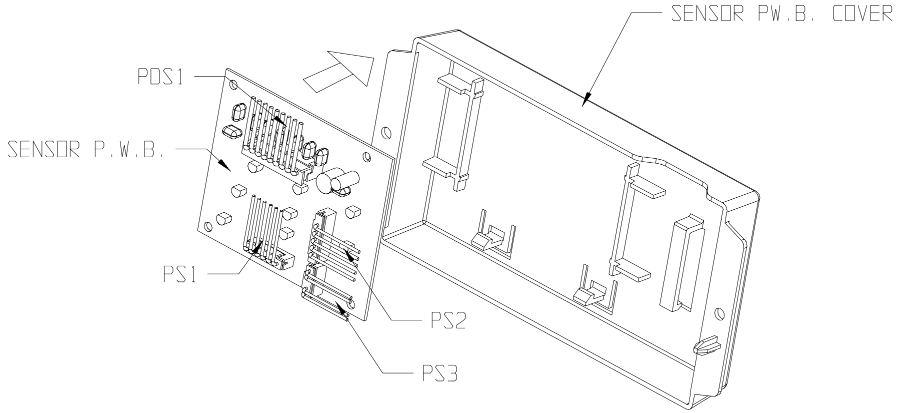

Silicon Cover
less than 1mm

(UFPK) FOCUS PACK ASY.

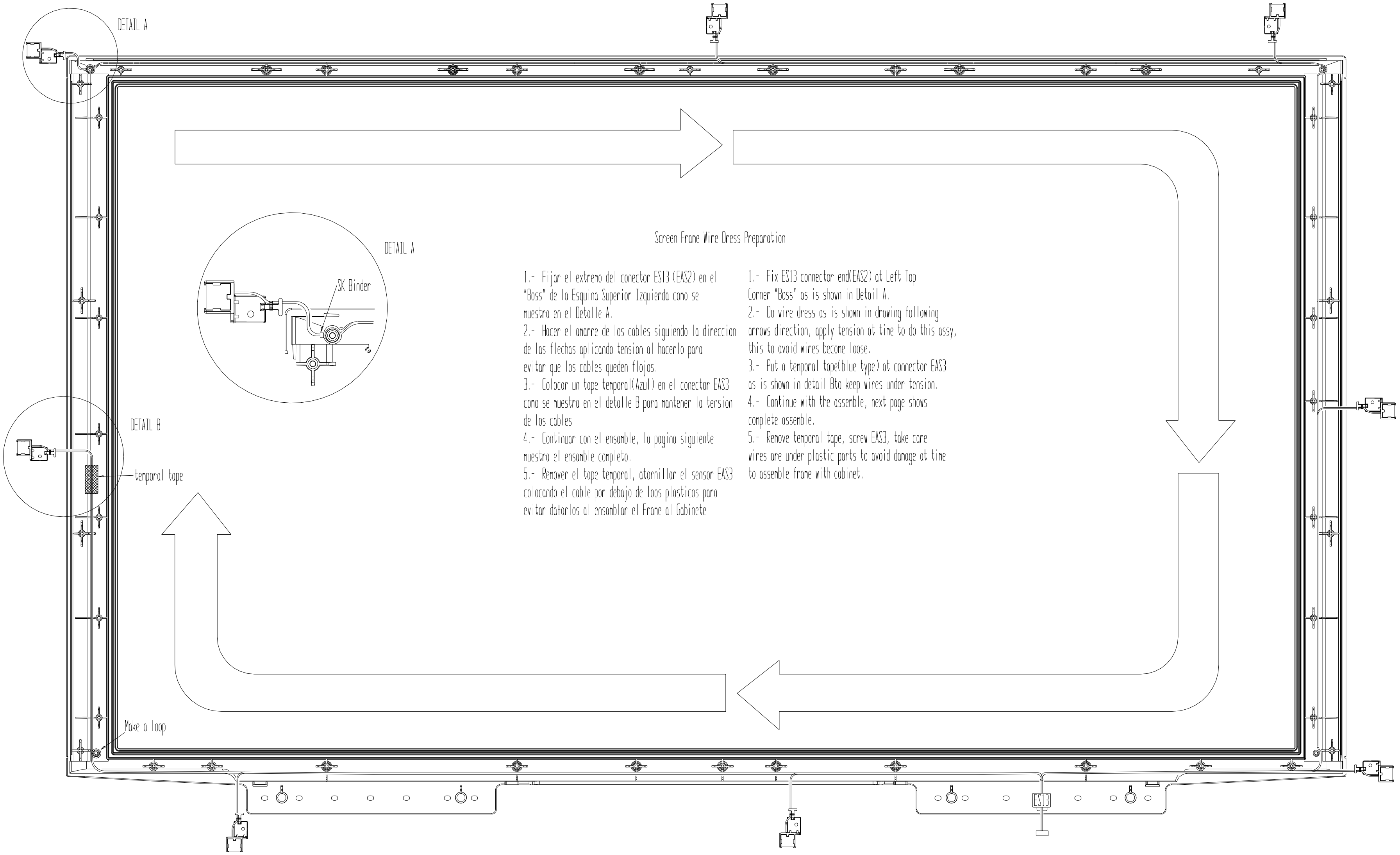

PAINT EACH COLOR
BLUE
GREEN
RED
CONNECT EACH COLOR
SCREEN LEAD FROM CPT P.W.B.
LEAD COLOR:ORANGE
CONNECT EACH COLOR
FOCUS LEAD FROM CPT P.W.B.
LEAD COLOR:IVORY
CONNECT [FS] CONNECTOR
FROM FBT.
FOCUS PACK
BACK SIDE
BLUE
GREEN
RED
PAINT EACH COLOR


WRAPPING & SOLDER
(DF1)CONNECTOR BLACK
(DF1)CONNECTOR RED
(NFP1)UL TUBE No.3 L=50mm
(NFP2)SK BAINDER

SENSOR PWB Assemble Detail


SENSOR PW.B. COVER
PDS1
SENSOR P.W.B.
PS1
PS2
PS3

FINAL WIRING DIAGRAM

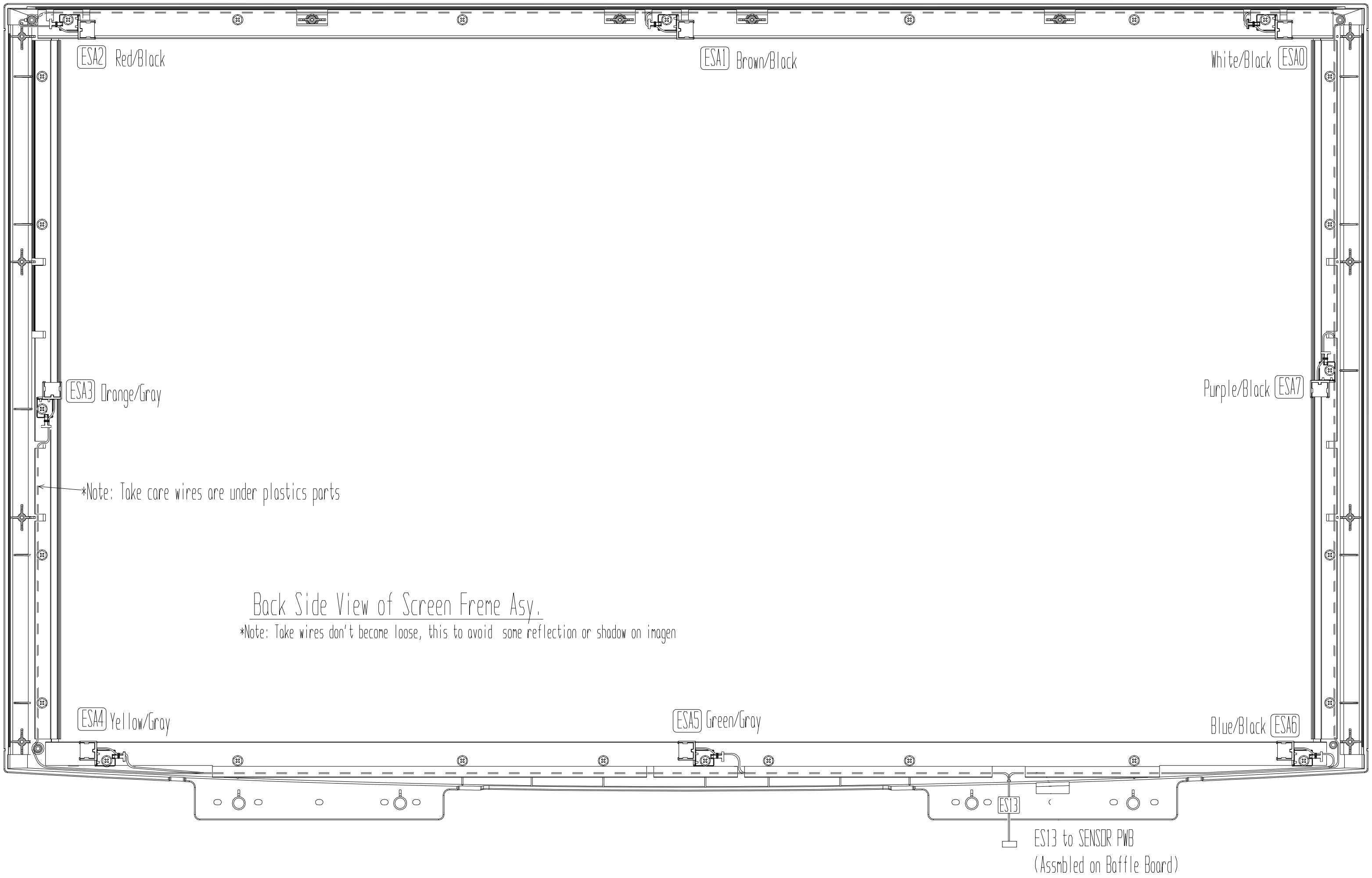


Screen Frame Wire Dress Preparation

1.- Fijar el extremo del conector ES13 (EAS2) en el "Boss" de la Esquina Superior Izquierda como se muestra en el Detalle A.
2.- Hacer el amarre de los cables siguiendo la direccion de las flechas aplicando tension al hacerlo para evitar que los cables queden flojos.
3.- Colocar un tape temporal(Azul) en el conector EAS3 como se muestra en el detalle B para mantener la tension de los cables
4.- Continuar con el ensamble, la pagina siguiente muestra el ensamble completo.
5.- Remover el tape temporal, atornillar el sensor EAS3 colocando el cable por debajo de loos plasticos para evitar datarlos al ensamblar el Frame al Gabinete

1.- Fix ES13 connector end(EAS2) at Left Top Corner "Boss" as is shown in Detail A.
2.- Do wire dress as is shown in drawing following arrows direction, apply tension at time to do this assy, this to avoid wires become loose.
3.- Put a temporal tape(blue type) at connector EAS3 as is shown in detail Bto keep wires under tension.
4.- Continue with the assemble, next page shows complete assemble.
5.- Remove temporal tape, screw EAS3, take care wires are under plastic parts to avoid damage at time to assemble frame with cabinet.

FINAL WIRING DIAGRAM


ESA2 Red/Black
ESA1 Brown/Black
White/Black ESA0
ESA3 Orange/Gray
Purple/Black ESA7
ESA4 Yellow/Gray
ESA5 Green/Gray
Blue/Black ESA6
ES13
ES13 to SENSOR PWB
(Assmbled on Baffle Board)

*Note: Take care wires are under plastics parts

Back Side View of Screen Freme Asy.

*Note: Take wires don't become loose, this to avoid some reflection or shadow on imagen

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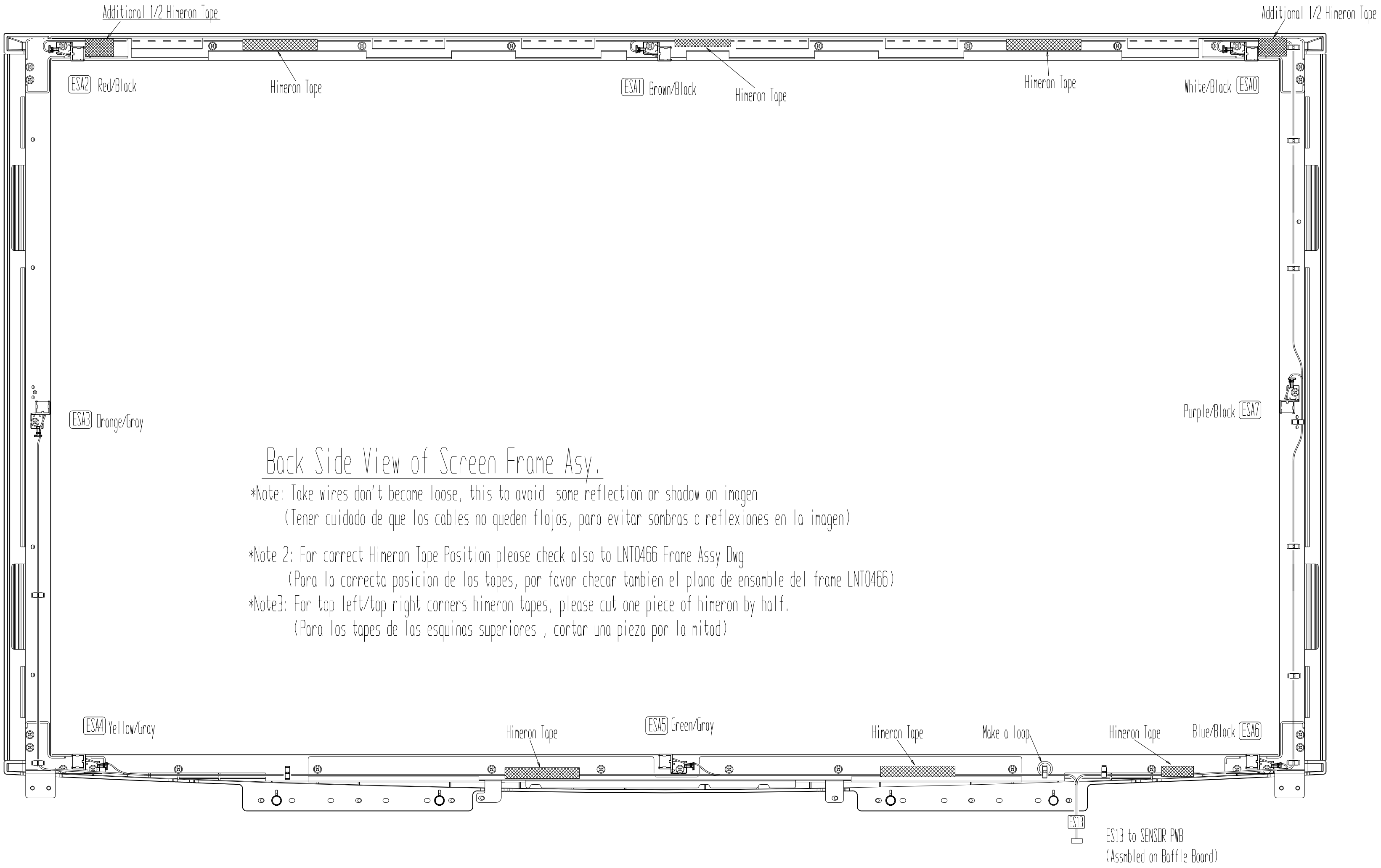
FINAL WIRING DIAGRAM


Additional 1/2 Himeron Tape
Additional 1/2 Himeron Tape
ESA2 Red/Black
Himeron Tape
ESA1 Brown/Black
Himeron Tape
Himeron Tape
White/Black ESA0
ESA3 Orange/Gray
Purple/Black ESA7
ESA4 Yellow/Gray
Himeron Tape
ESA5 Green/Gray
Himeron Tape
Make a loop
Himeron Tape
Blue/Black ESA6
ES13
ES13 to SENSOR PWB
(Assmbled on Baffle Board)

Back Side View of Screen Frame Asy.

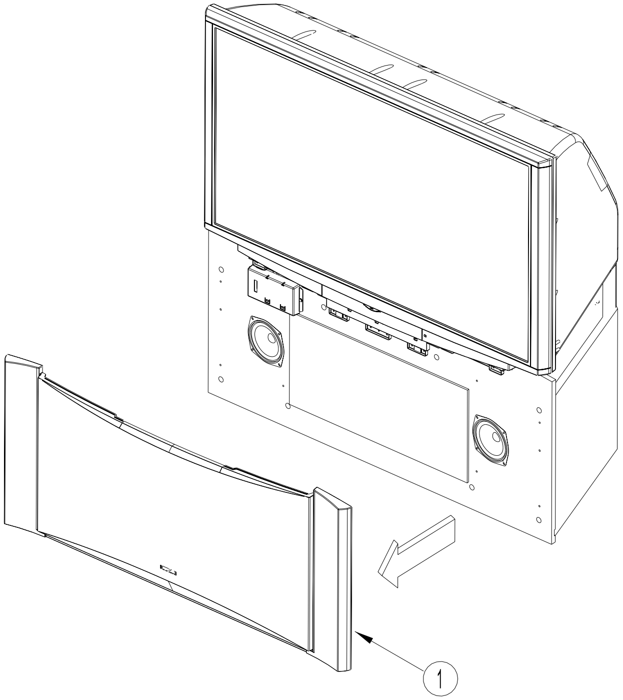
*Note: Take wires don't become loose, this to avoid some reflection or shadow on imagen
(Tener cuidado de que los cables no queden flojos, para evitar sombras o reflexiones en la imagen)

*Note 2: For correct Himeron Tape Position please check also to LNT0466 Frame Assy Dwg
(Para la correcta posicion de los tapes, por favor checar tambien el plano de ensamble del frame LNT0466)
*Note3: For top left/top right corners himeron tapes, please cut one piece of himeron by half.
(Para los tapes de las esquinas superiores , cortar una pieza por la mitad)

QUICK DISASSEMBLY GUIDE

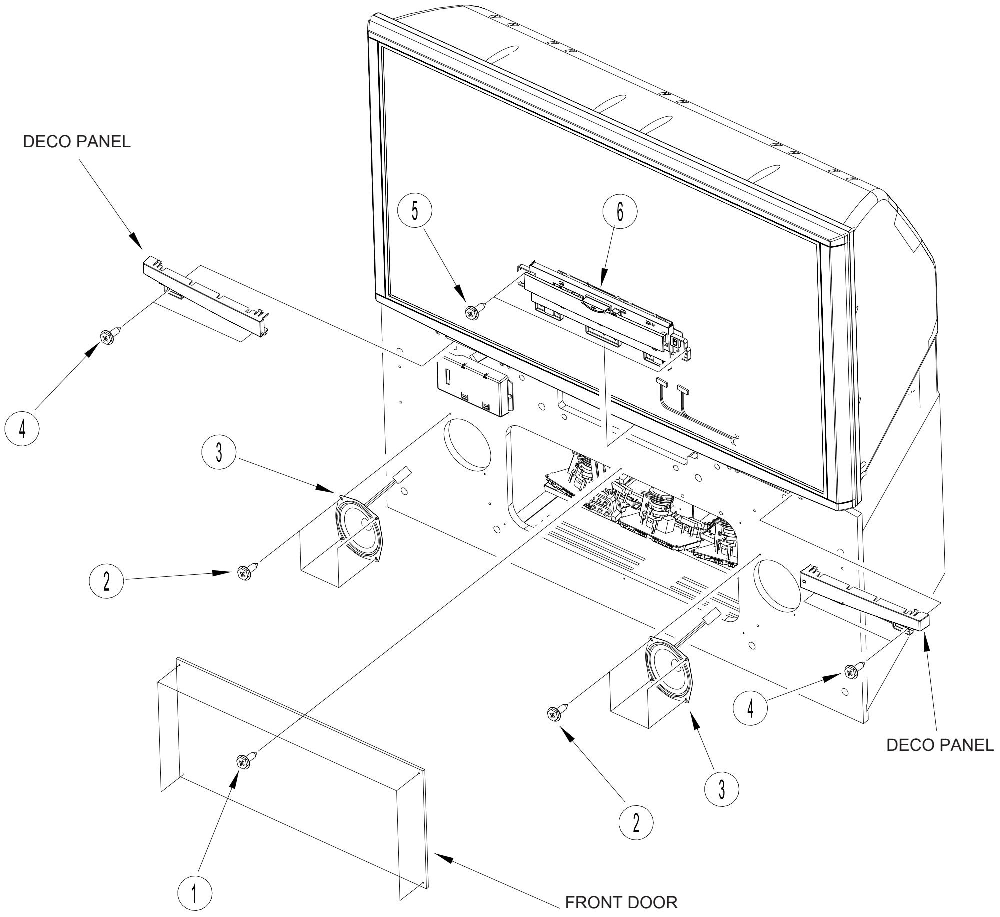
SPEAKER GRILL

1. Speaker Gril 51F710A P#PH34102
   57F710A P#PH33952
   65F710A P#PH34151



FRONT DOOR, SPEAKERS, DECOS, CONTROL BLOCK

1. Screws T1T 4*18 P#MJ03587(5 Pcs.)
2. Screws T1T 4*14 P#MJ03588(8 Pcs.)
3. Speaker 51F710A 12 cm. P#GK01371(2 Pcs.)
   57/65F710A 16 cm. P#GK01381(2 Pcs.)
4. Screws T1T 4*18 P#MJ03587(2 Pcs.)
5. Screws T1T 4*18 P#MJ03587(2 Pcs.)
6. Control Panel P#UE25032


DECO PANEL
5
6
4
3
2
1
4
DECO PANEL
3
2
FRONT DOOR

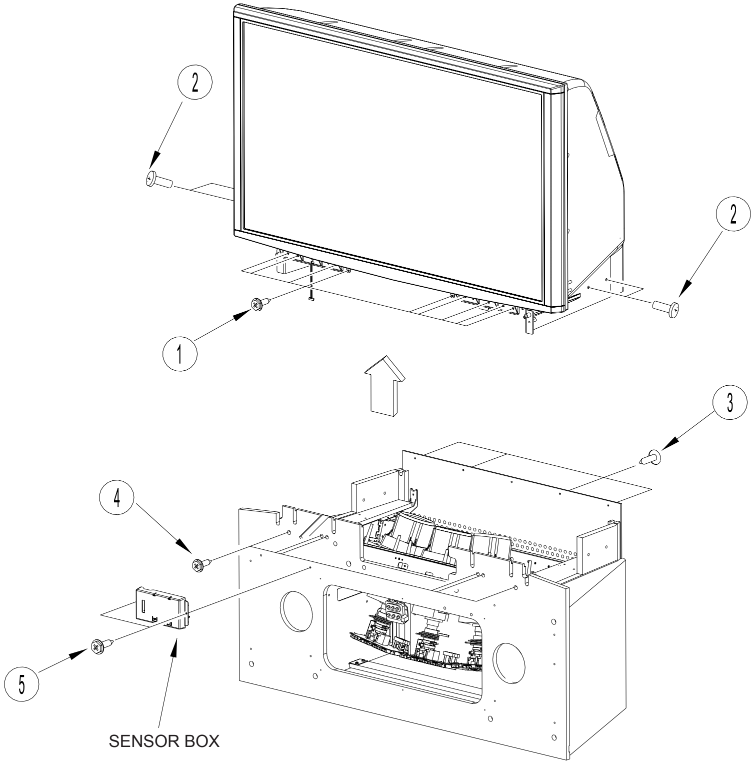
CABINET, BACK COVER/FRAME ASSY(51/57F710A)

1. Screws T1T 4*18 P#MJ03587(9 Pcs.)

2. Screws Allen P#MJ03231(4 Pcs.)

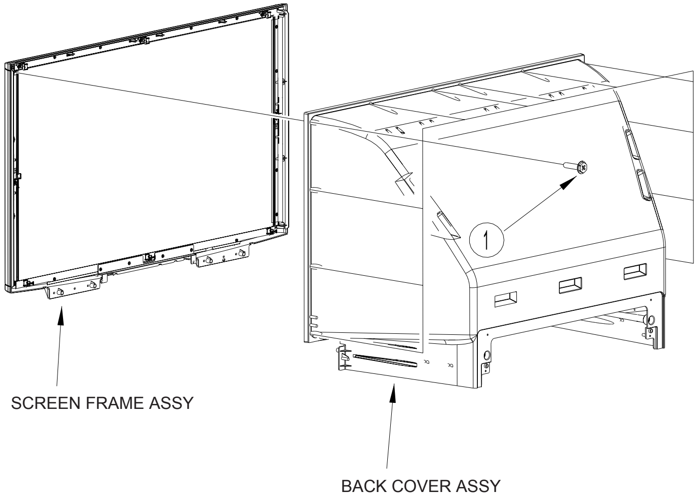
3. Screws T1T 4*18 P#MJ03587(4 Pcs.)

4. Screws T1T 4*25 P#4524916(4 Pcs.)
   4*30 P#4519518(2 Pcs.)
5. Screws T1T 4*18 P#MJ03587(2 Pcs.)


2
2
1
3
4
5
SENSOR BOX

SCREEN FRAME ASSY, BACK COVER ASSY(51/57F710A)

1. Screws T1T 4*18 P#MJ03587(12 Pcs.)


1
SCREEN FRAME ASSY
BACK COVER ASSY

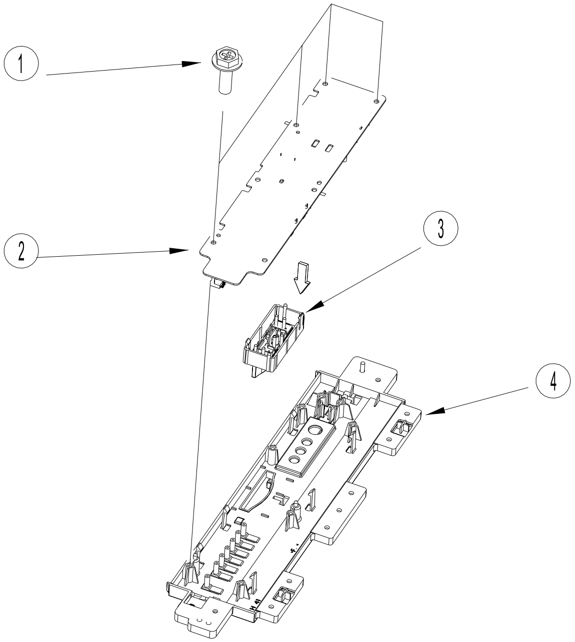
CONTROL BLOCK ASSY

. 1. Screws B-Tap 4*12 P#4519511(4 Pcs.)

. 2. Control PWB Assy P#JT25052

. 3. Power Button P#PC06001

. 4. Control Frame P#PH34186



BACK COVER ASSY(51/57F710A)

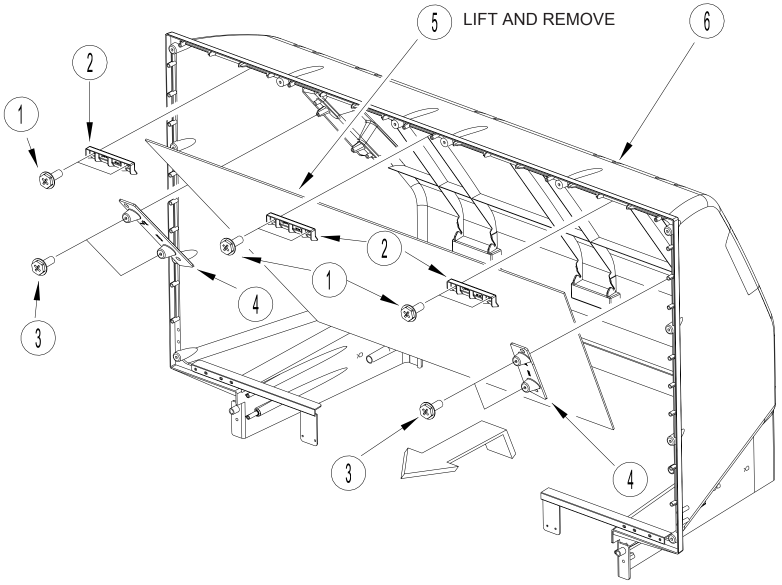
. 1. Screws T2B 4*16 P#MJ03635(6 Pcs.)

. 2. Mirror Retainer P#NJ09161

. 3. Screws T2B 4*25 P#MJ03639(4 Pcs.)

. 4. Side Holder R/L P#NJ09155/NJ09156

. 5. Mirror 51F710A P#KS07996
57F710A P#KS09403
. 6. Back Cover 51F710A P#QD38063
57F710A P#QD38052

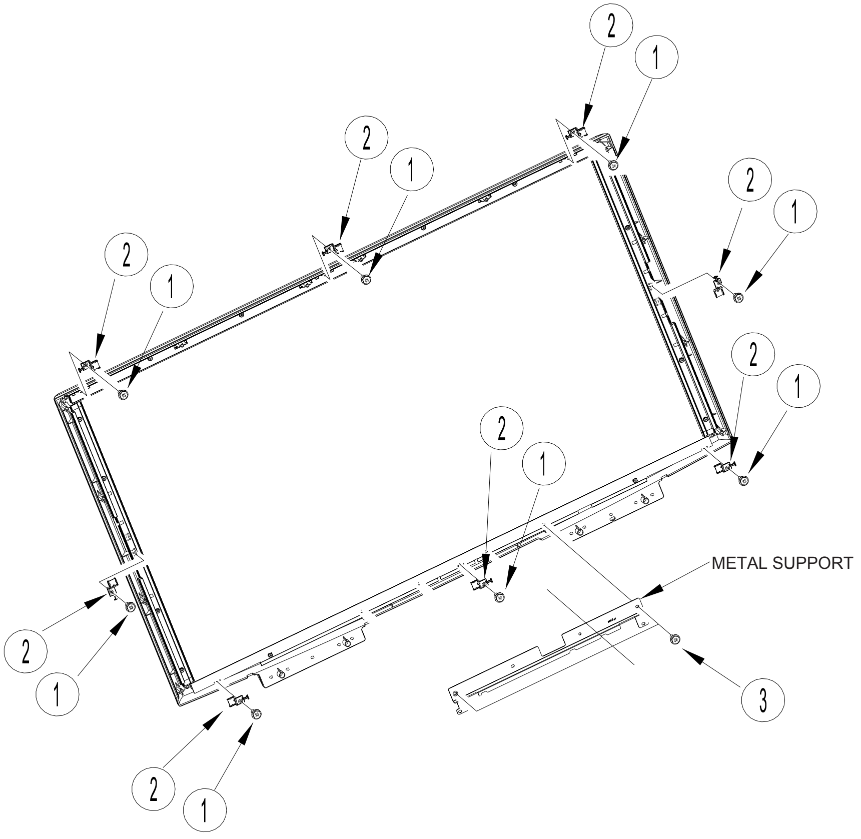


SCREEN FRAME ASSY 1 (51/57F710A)

. 1. Screws T1T 4*18 P#MJ03587(8 Pcs.)

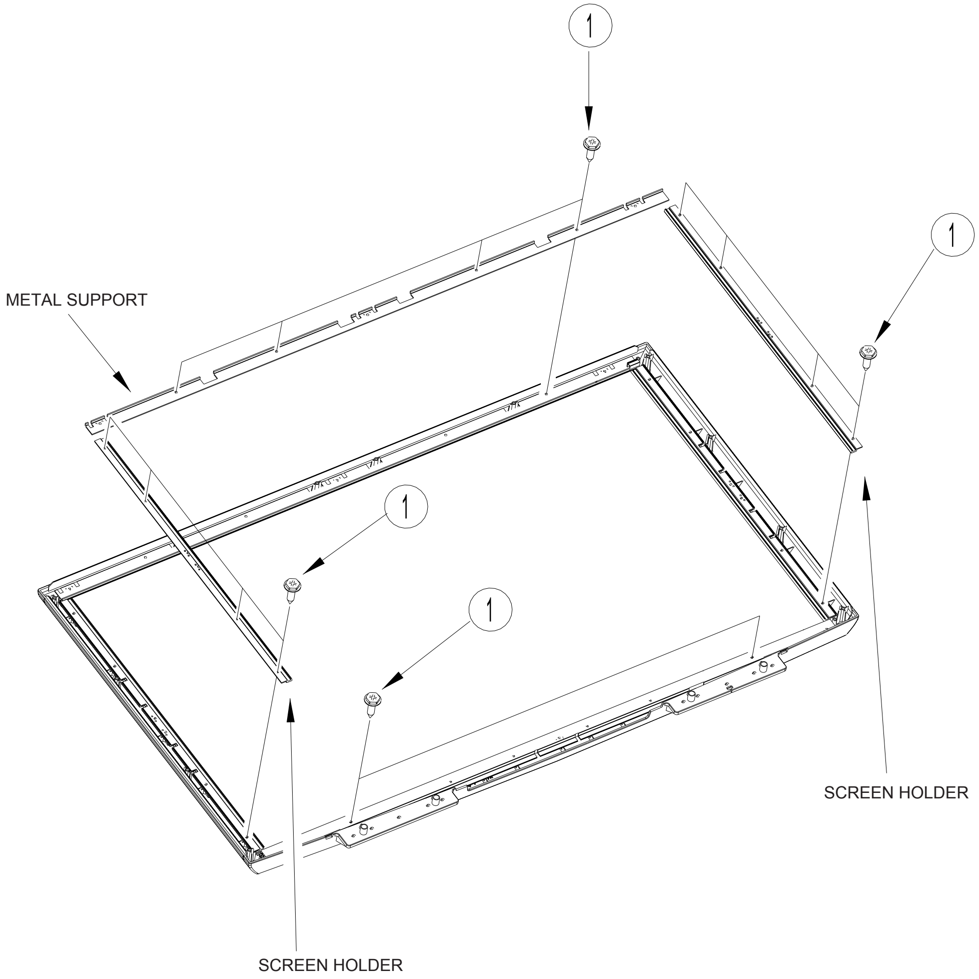
. 2. Sensor Harness 51F710A P#EK01562
57F710A P#EK01563

. 3. Screws T1T 4*18 P#MJ03587(2 Pcs.)


2
1
2
1
2
1
2
1
2
1
2
1
2
1
2
1
METAL SUPPORT
3

SCREEN FRAME ASSY 2 (51/57F710A)

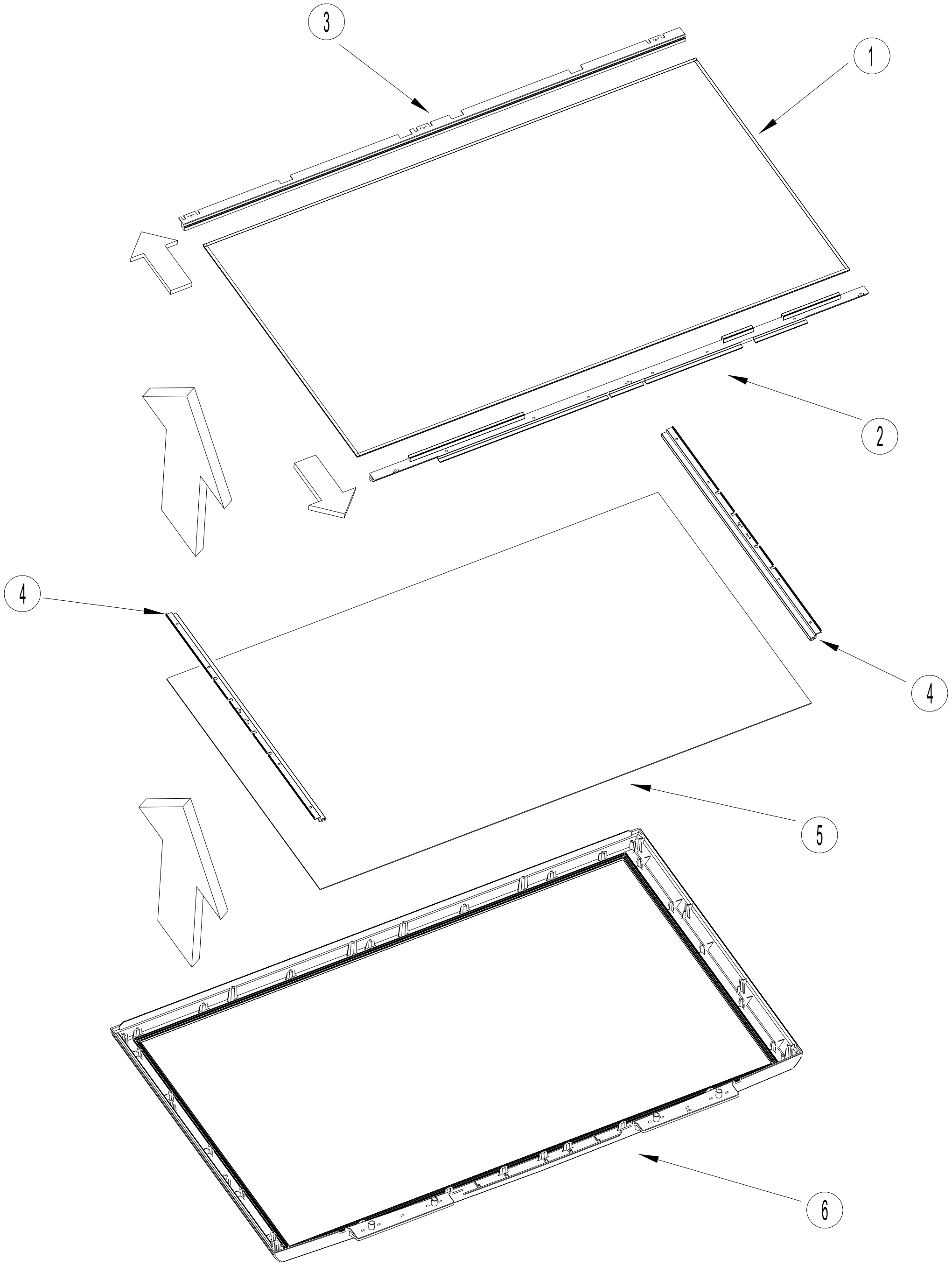
. 1. Screws T1T 4*18 P#MJ03587(18 Pcs.)


1
1
METAL SUPPORT
1
1
SCREEN HOLDER
SCREEN HOLDER

SCREEN FRAME ASSY 3 (51/57F710A)

1. Screen Assy	51F710A P#KR03491 57F710A P#KR03492
2. Bottom Screen Holder	51F710A P#NJ22471 57F710A P#NJ22461
3. Top Screen Holder	51F710A P#NJ22472 57F710A P#NJ22462
4. Side Screen Holder	51F710A P#PH34051 57F710A P#PH34052
5. Ultra Shield Sheet	51F710A P#KR02074 57F710A P#KR03265
6. Screen Frame	51F710A P#NT04072 57F710A P#NT04082

Updated 01/06

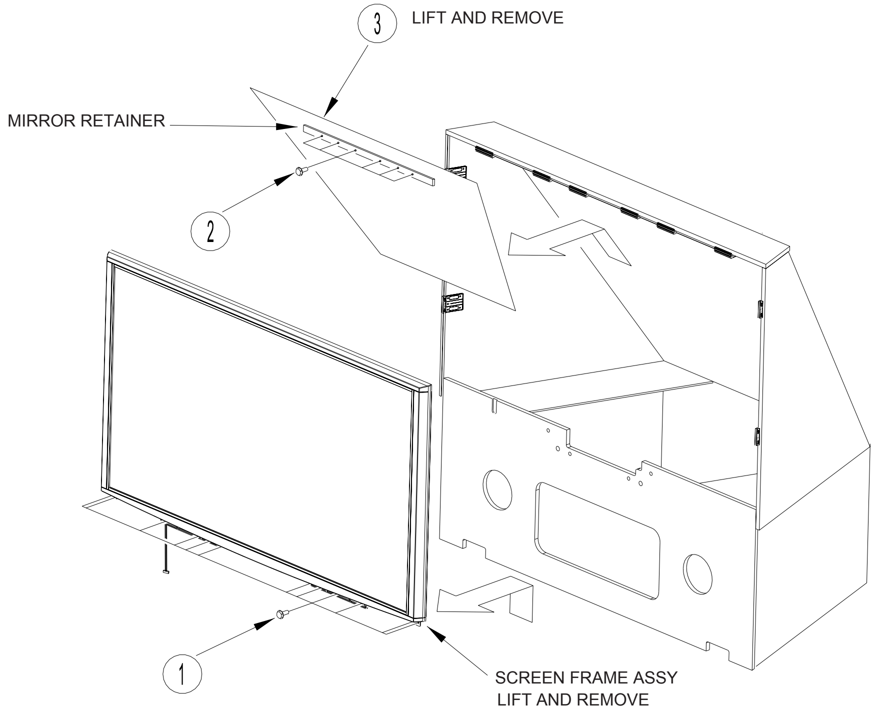


SCREEN FRAME ASSY, MIRROR (65F710A)

. 1. Screws T1T 4*18 P#MJ03587(12 Pcs.)

. 2. Screws Flat Head P#MJ03111(6 Pcs.)

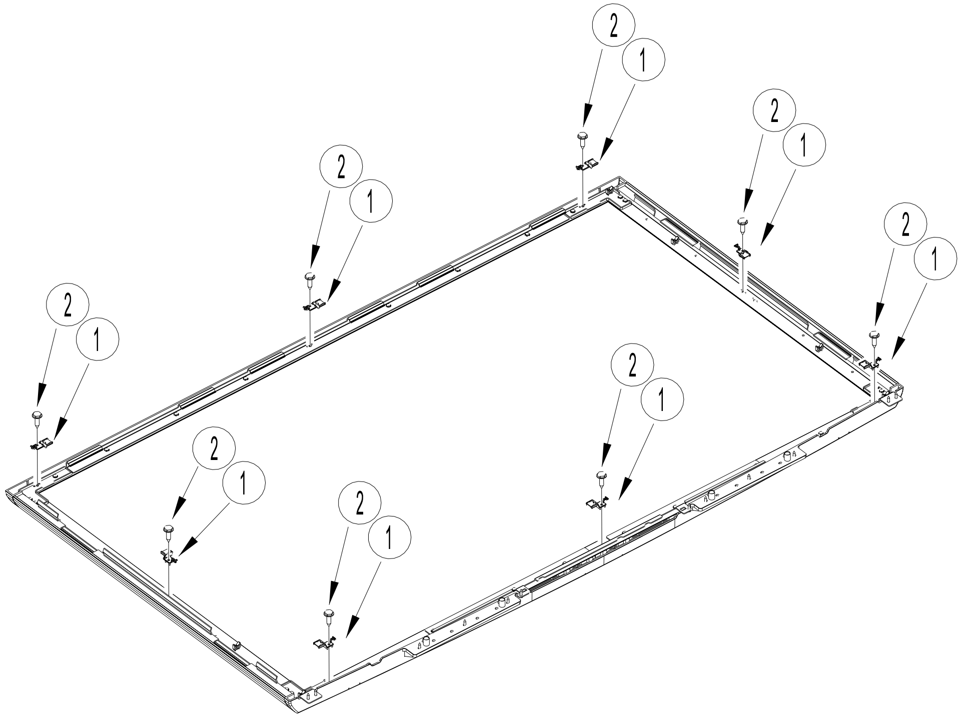
. 3. Mirror P#KS08151


3
LIFT AND REMOVE
MIRROR RETAINER
2
1
SCREEN FRAME ASSY
LIFT AND REMOVE

SCREEN FRAME ASSY 1 (65F710A)

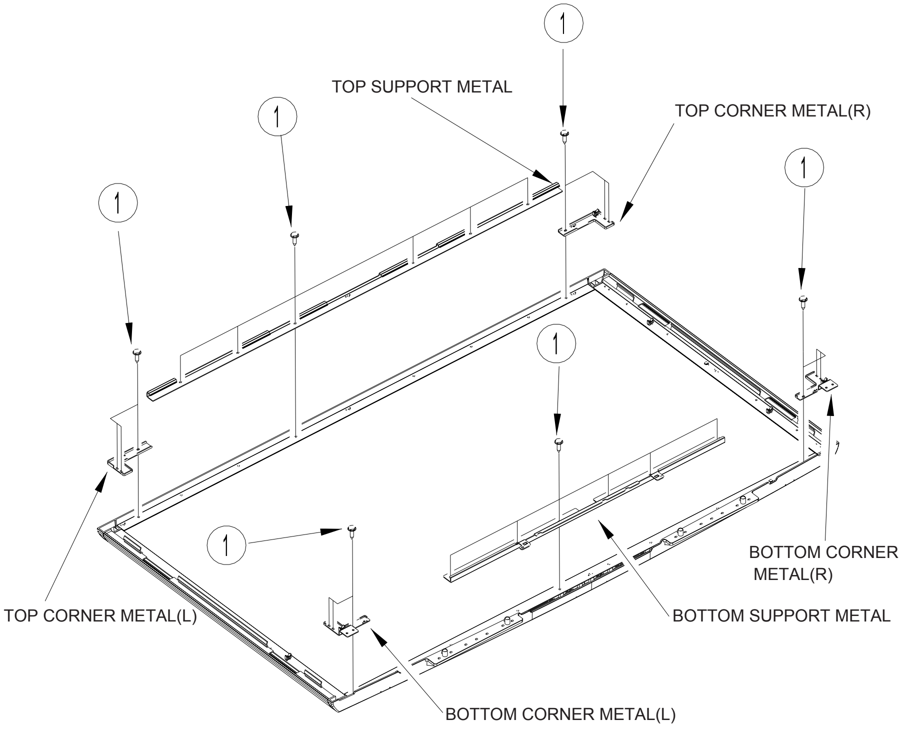
. 1. Screws T1T 4*18 P#MJ03587(8 Pcs.)

. 2. Sensor Harness P#EK01566


2
1
2
1
2
1
2
1
2
1
2
1
2
1
2
1

SCREEN FRAME ASSY 2 (65F710A)

. 1. Screws T1T 4*18 P#MJ03587(24 Pcs.)


1
TOP SUPPORT METAL
1
TOP CORNER METAL(R)
1
1
1
1
1
TOP CORNER METAL(L)
BOTTOM CORNER METAL(R)
BOTTOM SUPPORT METAL
BOTTOM CORNER METAL(L)

SCREEN FRAME ASSY 3 (65F710A)

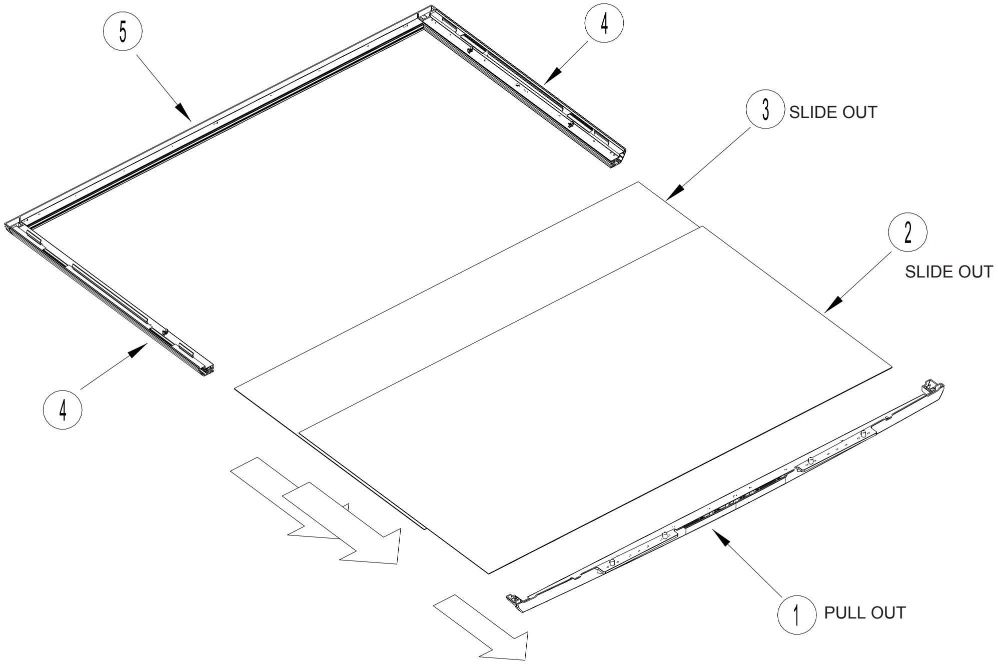
. 1. Bottom Frame P#QD38106
Bottom Screen Holder P#QD38143

. 2. Screen Assy P#KR03493

. 3. Ultrashield P#KR03263

. 4. Vertical Frame P#QD38125

. 5. Top Frame P#QD38105
Top Screen Holder P#QD38133

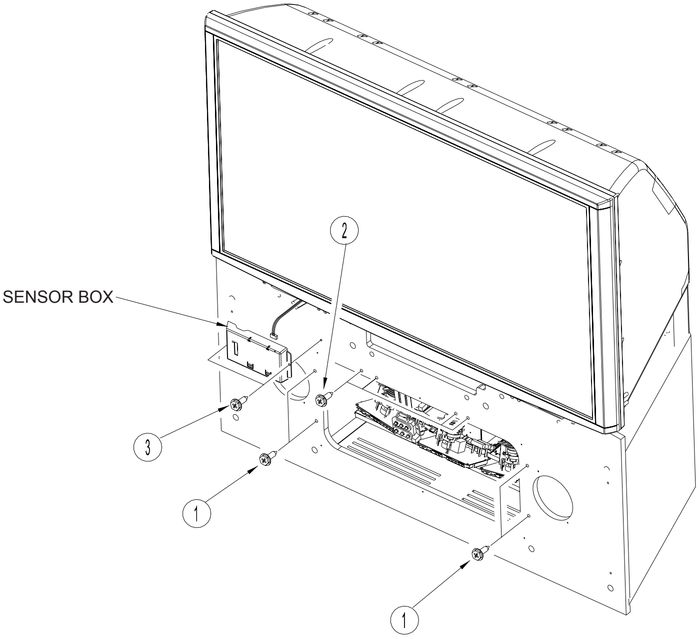

5
4
3 SLIDE OUT
2
SLIDE OUT
4
1 PULL OUT

CORE ASSY 1

. 1. Screws Allen P#61010116(4 Pcs.)

. 2. Screws Flat Head P#MJ0875(4 Pcs.)

. 3. Screws T1T 4*18 P#MJ08745(4 Pcs.)


SENSOR BOX
2
3
1
1

CORE ASSY 2

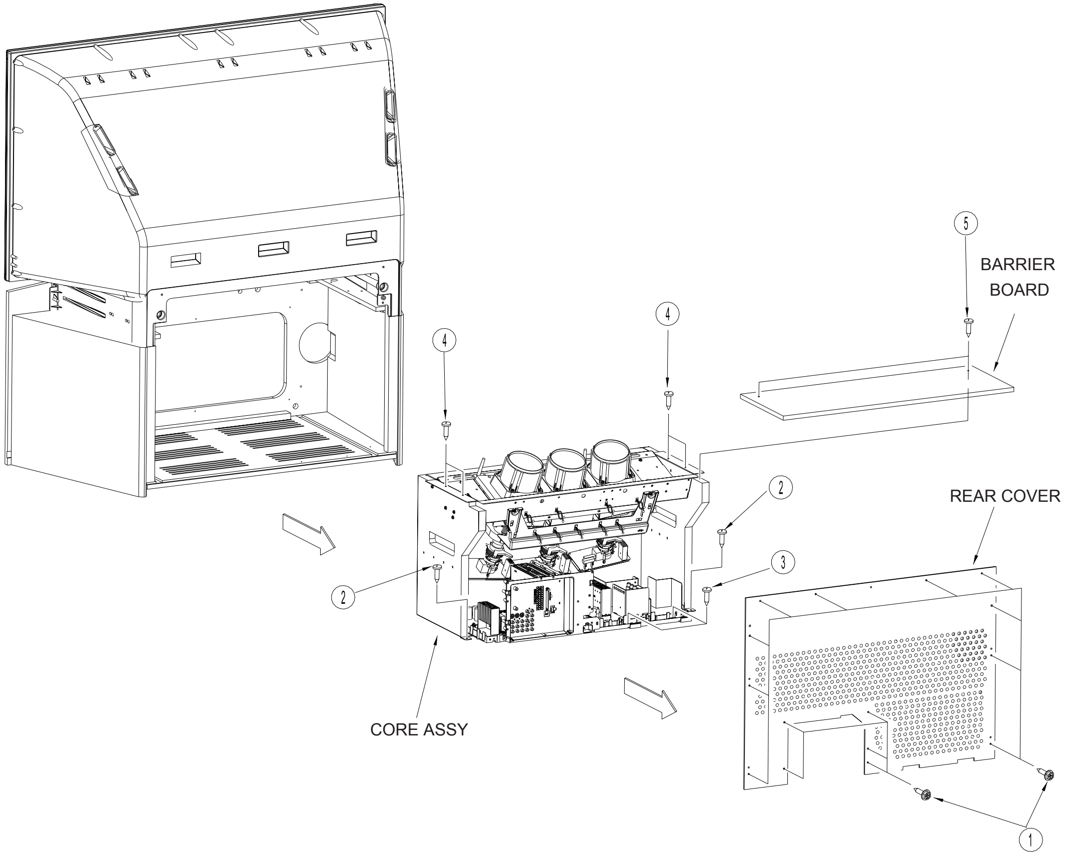
. 1. Screws T1T 4*18 P#MJ03587(15 Pcs.)

. 2. Screws T1T 4*18 P#MJ03587(2 Pcs.)

. 3. Screws T1T 4*18 P#MJ03587(2 Pcs.)

. 4. Screws T2B 4*25 P#MJ03639(4 Pcs.)

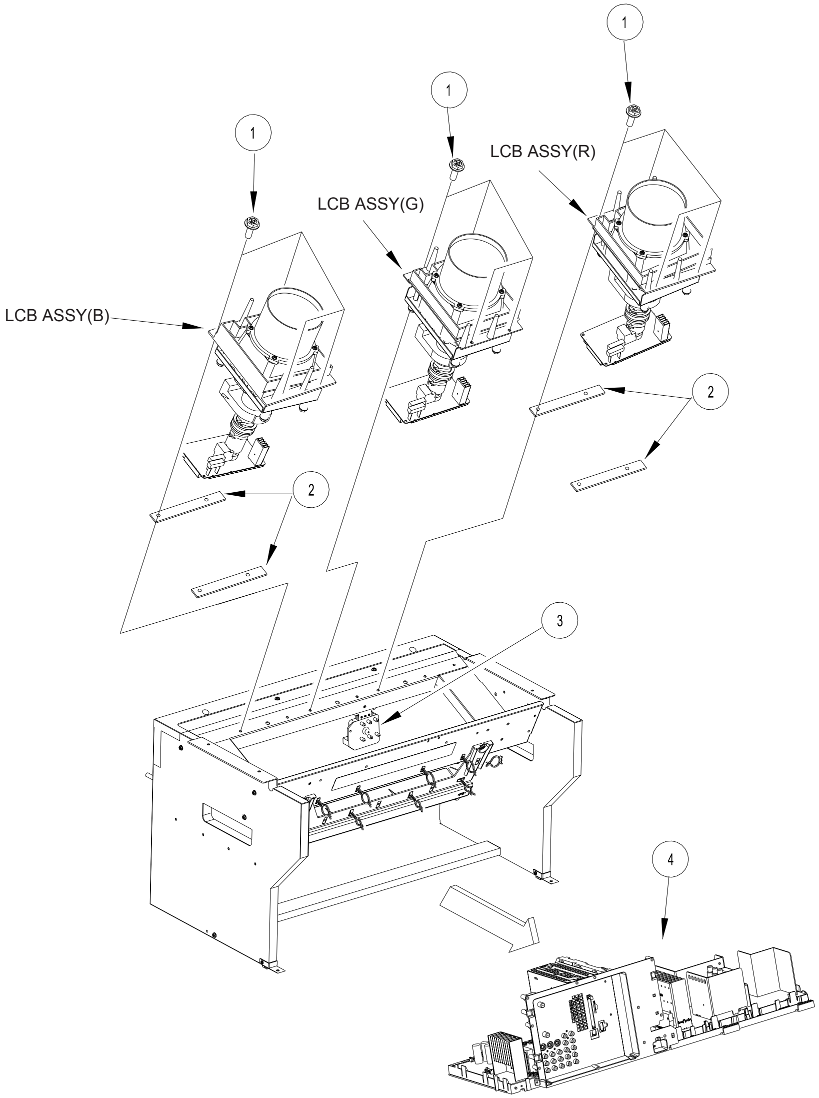
. 5. Screws Flat Head P#MJ08745(2 Pcs.)


5
BARRIER BOARD
4
4
2
REAR COVER
3
2
CORE ASSY
1

CORE ASSY 3

. 1. Screws T2B 4*12 P#MJ03634(12 Pcs.)(51/57F710A)
T2B 4*20 P#MJ03638(12 Pcs.)(65F710A)
. 2. Bracket Spacer P#ND00594(4 Pcs.)(65F710A Only)

. 3. Focus Pack 51/57F710A P#AZ00726
65F710A P#AZ00165
. 4. Main Chassis P#UE24572



LCB ASSY

1. Light Stopper P#MN05593(3 Pcs.)(51/57F710A Only)

2. Srews T2B 4*12 P#MJ03634(12 Pcs.)

. 3. Lens 51/57F710A R,G P#KQ03081K
B P#KQ03082K
65F710A R,G,B P#KQ02332

. 4. Lens Spacer R,B P#MK01154(4 Pcs.)(65F710A Only)

. 5. PRT Assy 51F710A R P#UE25051
G P#UE25052
B P#UE25053

57F710A R P#UE25054
G P#UE25055
B P#UE25056

65F710A R P#UE25061
G P#UE25062
B P#UE25063

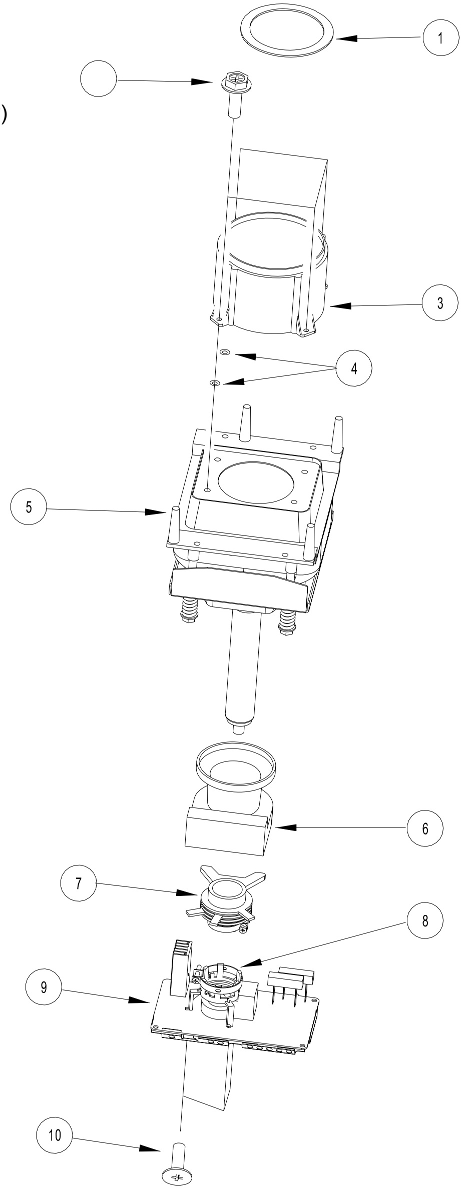
. 6. DY's P#BY01794(3 Pcs.)

. 7. VM Coil P#GX00516(3 Pcs.)

. 8. CPT Holder P#NJ21571
Band P#MK00733

. 9. CPT PWB P#JT25052

. 10. Screws T2B 3*12 P#MJ03458(9 Pcs.)



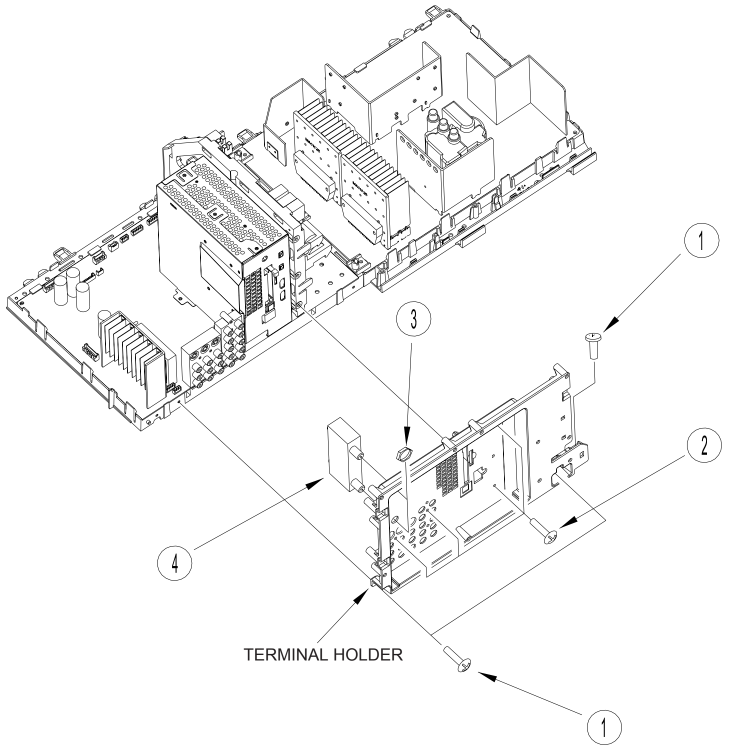
MAIN CHASSIS ASSY

. 1. Screws T2B 3*16 P#MJ03459(3 Pcs.)

. 2. Screws T2B 3*12 P#MJ03551(3 Pcs.)

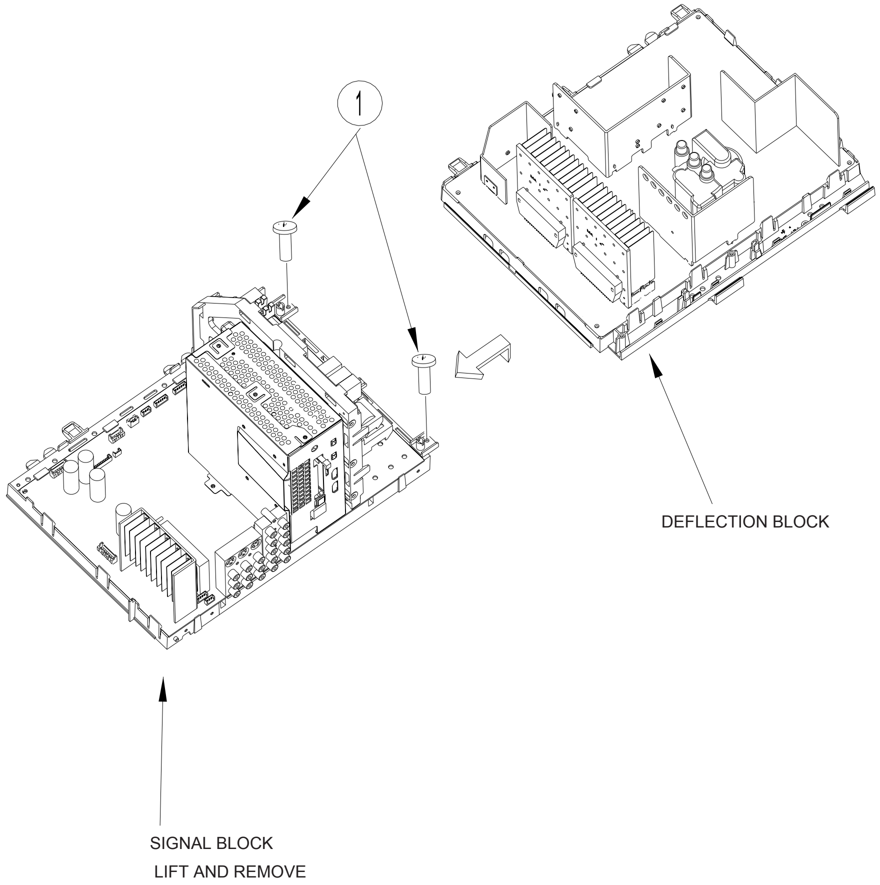
. 3. Nut Washer P#MK01431(2 Pcs.)

. 4. Antenna Switch Box P#HP00774


1
3
2
4
TERMINAL HOLDER
1

SIGNAL BLOCK ASS, DEFLECTION BLOCK ASSY

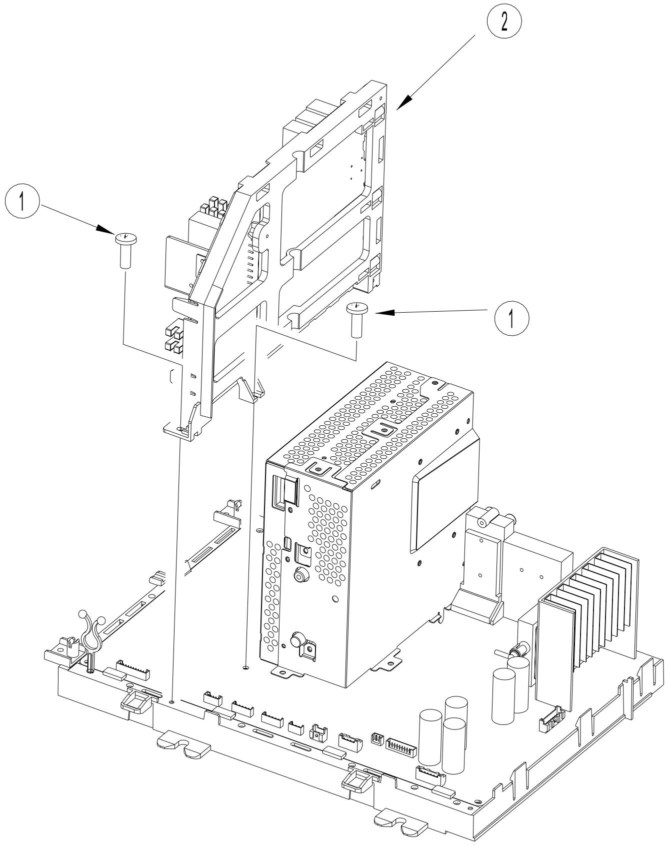
. 1. Screws T2B 3*16 P#MJ03459(2 Pcs.)


1
DEFLECTION BLOCK
SIGNAL BLOCK
LIFT AND REMOVE

POWER PWB ASSY

. 1. Screws T2B 3*16 P#MJ03459(2 Pcs.)

. 2. Power PWB Assy P#JT25022

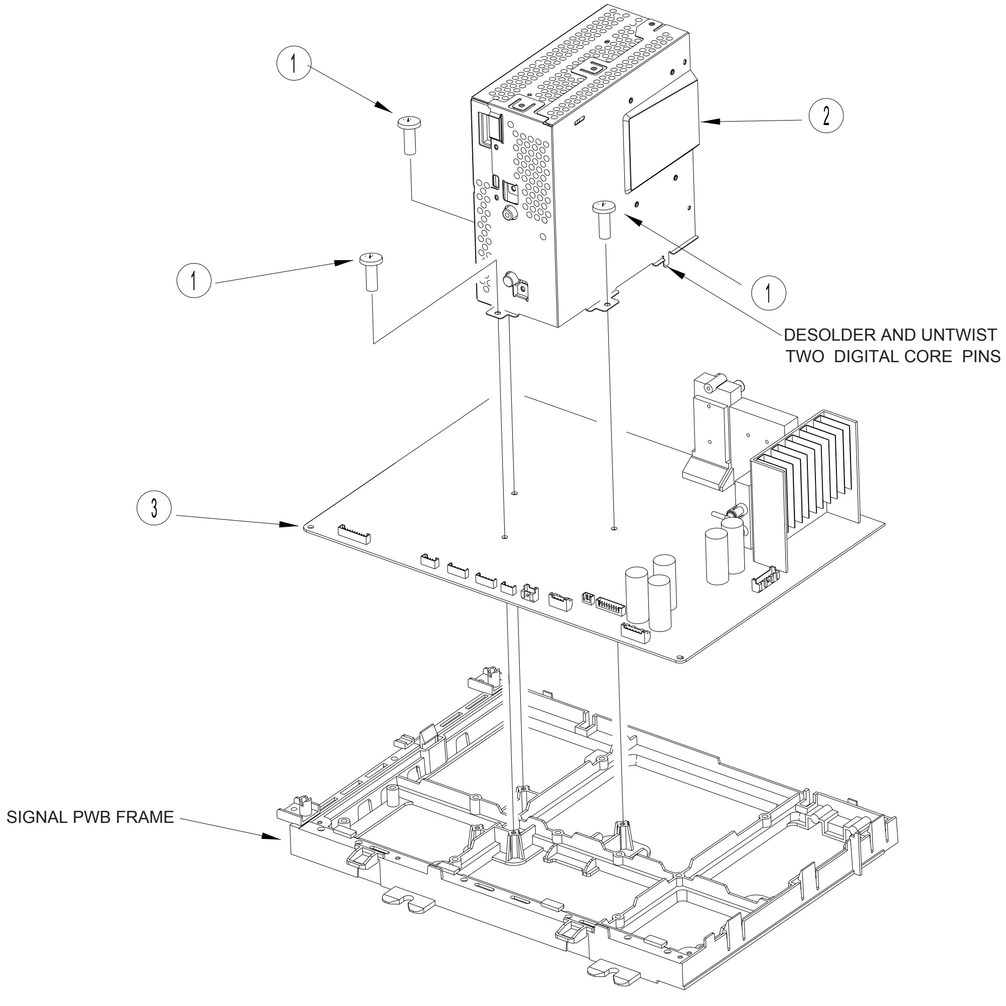


SIGNAL PWB ASSY, DIGITAL CORE

. 1. Screws T2B 3*16 P#MJ03459(3 Pcs.)

. 2. Digital Core P#UE24771

. 3. Signal PWB Assy P#JT25012

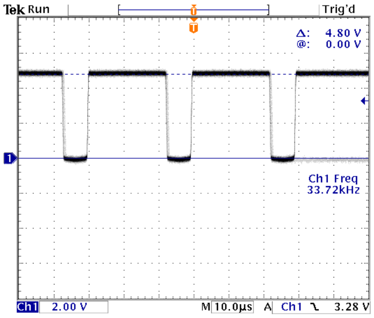

1
2
1
1
DESOLDER AND UNTWIST TWO DIGITAL CORE PINS
3
SIGNAL PWB FRAME

WAVEFORMS AT EACH SECTION

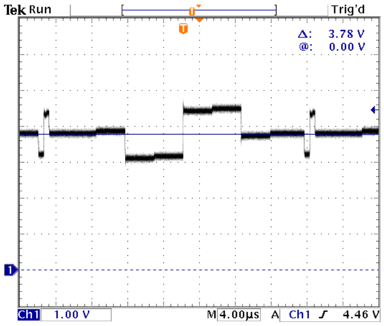
Numbers inside circle correspond to locations shown in the circuit diagram. Waveforms taken using a Color Bar signal with H sync 31 khz and V. sync 60 hz and a X10 probe.

Click on number to go to schematic

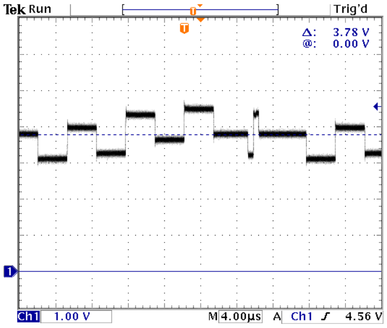
① I001 Pin 4 Main Sync



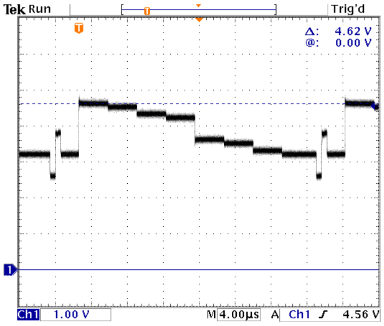
② I401 Pin 54 Main PR OUT



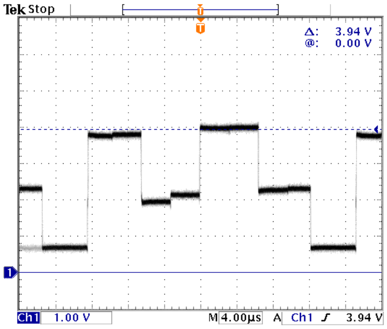
③ I401 Pin 55 Main PB OUT



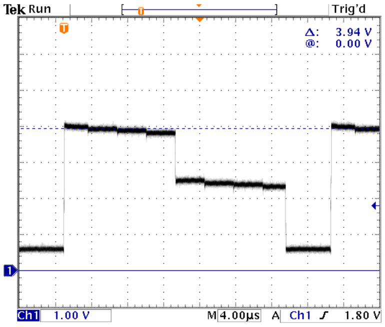
④ I401 Pin 56 Main Y OUT



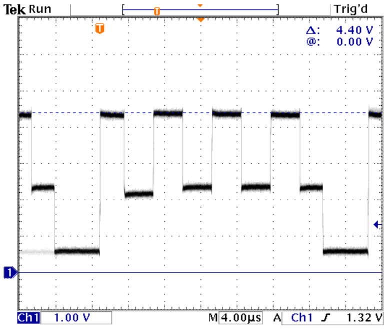
⑤ IX01 Pin 12 R OUT



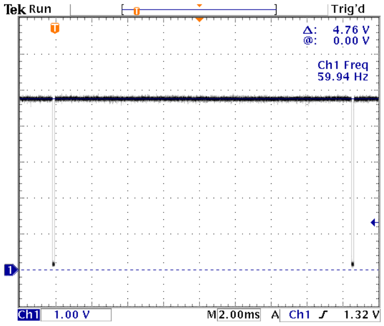
⑥ IX01 Pin 13 G OUT



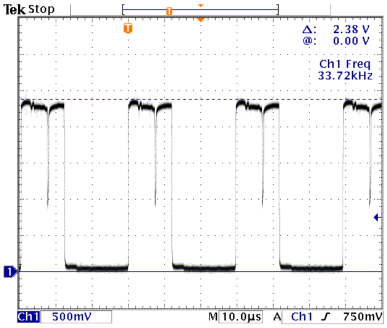
⑦ IX01 Pin 14 B OUT



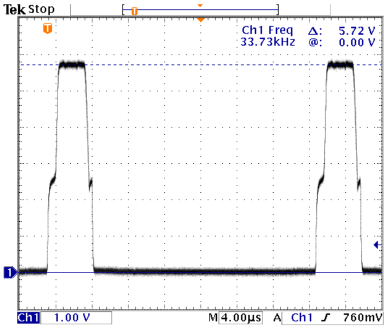
⑧ IX01 Pin 35 VP-OUT



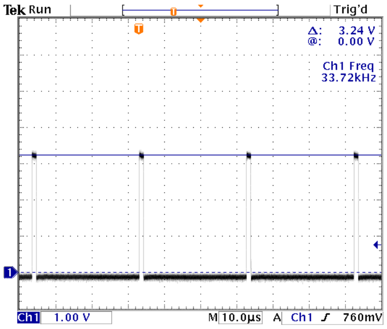
⑨ IX01 Pin 37 H OUT



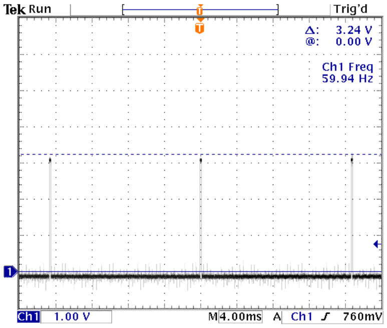
⑩ IX01 Pin 39 FBP-IN



⑪ IX01 Pin 50 HD SYNC IN



⑫ IX01 Pin 52 VD SYNC IN



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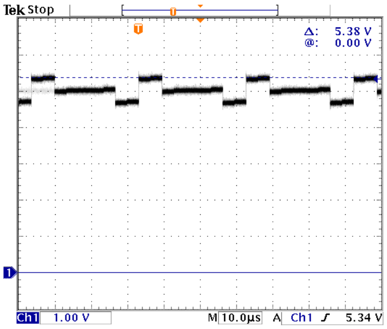
WAVEFORMS AT EACH SECTION

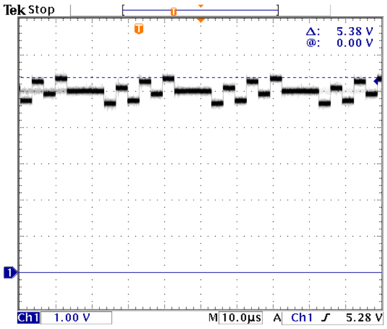
Numbers inside circle correspond to locations shown in the circuit diagram. Waveforms taken using a Color Bar signal with H sync 31 khz and V. sync 60 hz and a X10 probe.

Click on number to go to schematic

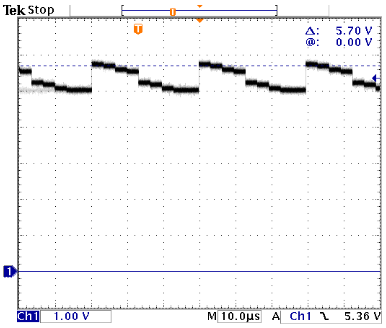
⑬ IX01 Pin 66 PR IN



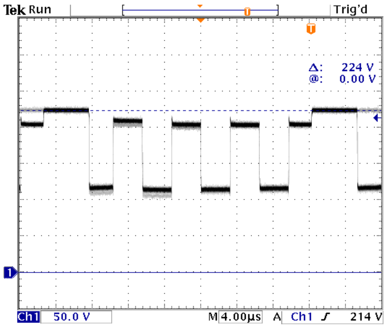
⑭ IX01 Pin 67 PB IN



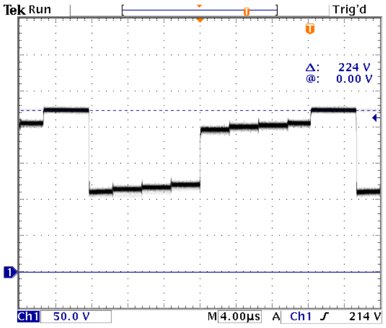
⑮ IX01 Pin 68 Y IN



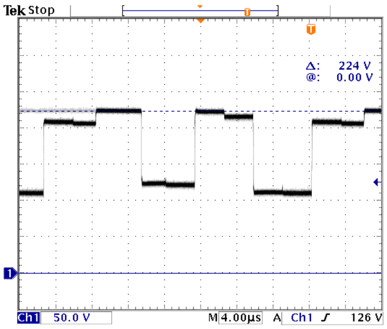
⑯ P8A2 B OUT



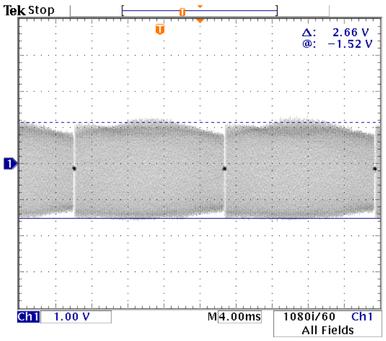
⑰ P852 G OUT



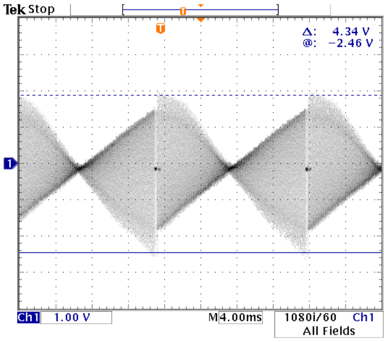
⑱ P802 R OUT



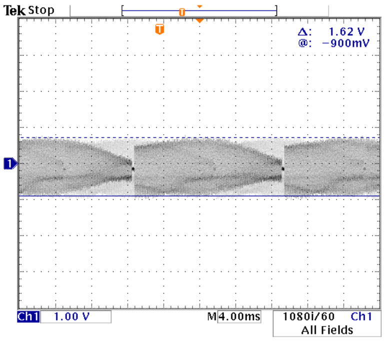
⑲ PDT4 Pin 2 BH DCU OUT



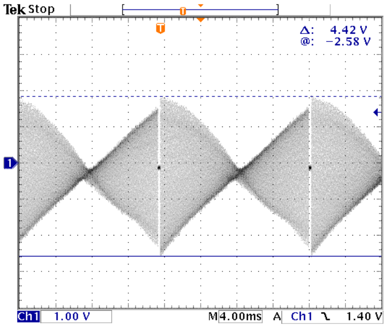
⑳ PDT4 Pin 3 BV DCU OUT



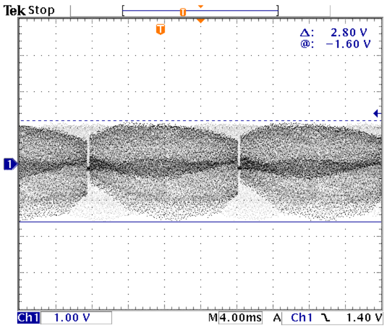
㉑ PDT4 Pin 4 GH DCU OUT



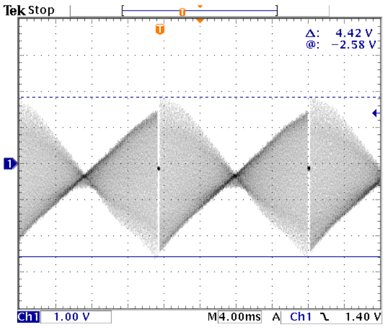
㉒ PDT4 Pin 5 GV DCU OUT



㉓ PDT4 Pin 6 RH DCU OUT



㉔ PDT4 Pin 7 RV DCU OUT



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WAVEFORMS AT EACH SECTION

Numbers inside circle correspond to locations shown in the circuit diagram. Waveforms taken using a Color Bar signal with H sync 31 khz and V. sync 60 hz and a X10 probe.

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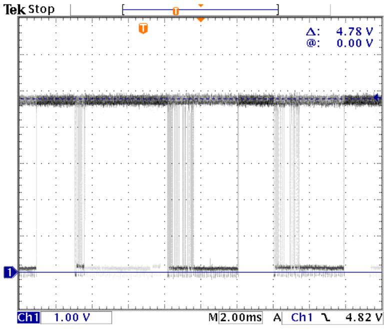
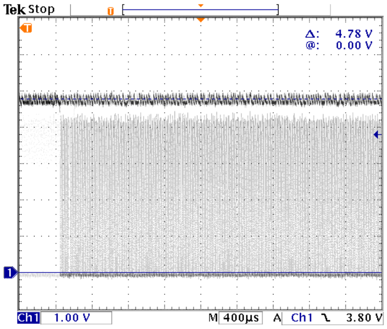
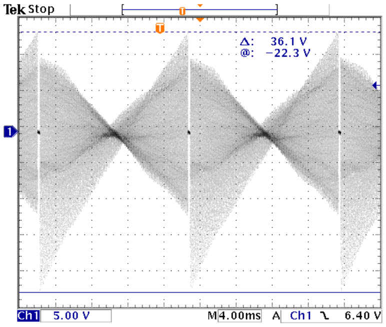
㉕ PST Pin 63 SDA



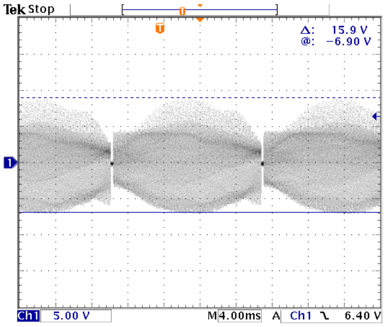
㉖ PST Pin 64 SCL



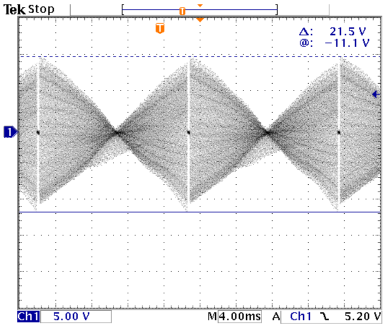
㉗ PCR Pin 1 RV CONV OUT



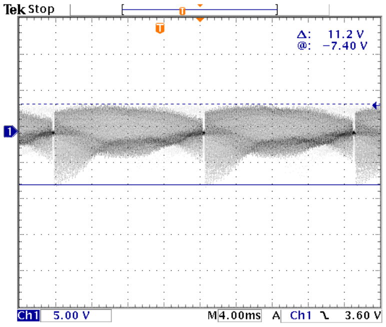
㉘ PCR Pin 6 RH CONV OUT



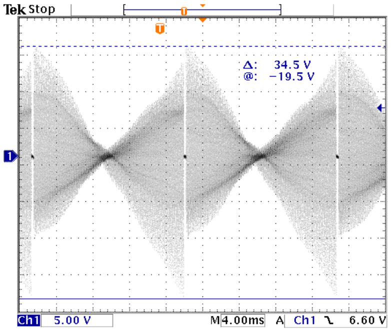
㉙ PCG Pin 1 GV CONV OUT



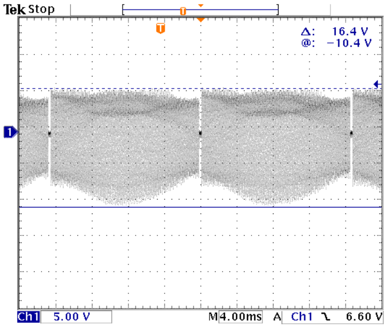
㉚ PCG Pin 6 GH CONV OUT



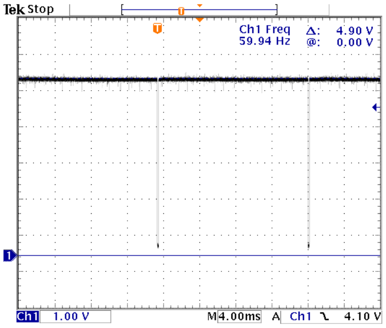
㉛ PCB Pin 1 BV CONV OUT



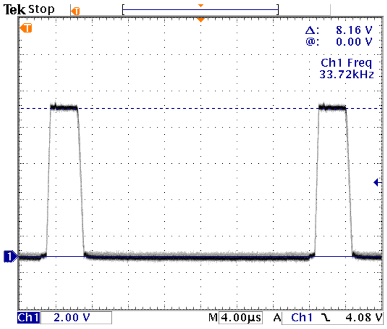
㉜ PCB Pin 6 BH CONV OUT



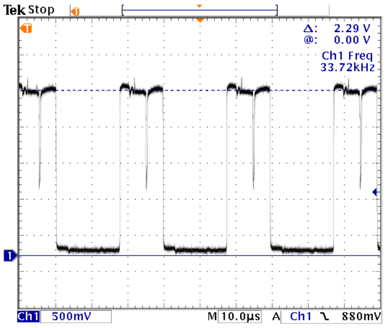
㉝ PDT2 Pin 5 V DRIVE



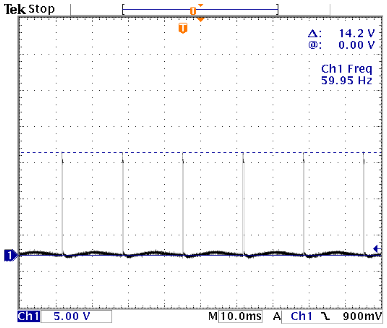
㉞ PDT2 Pin 7 H BLK



㉟ PDT2 Pin 9 H DRIVE



㊱ PDT2 Pin 11 V BLK



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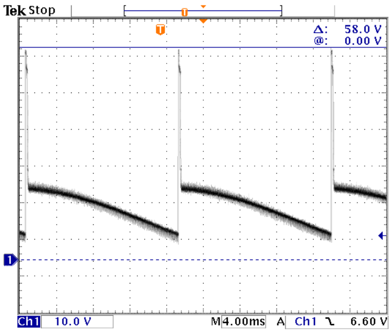
WAVEFORMS AT EACH SECTION

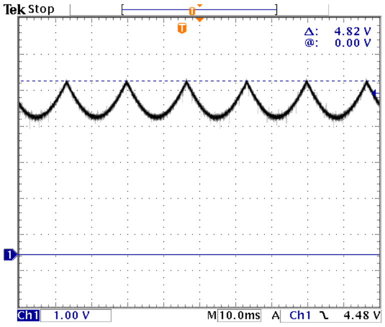
Numbers inside circle correspond to locations shown in the circuit diagram. Waveforms taken using a Color Bar signal with H sync 31 khz and V. sync 60 hz and a X10 probe.

Click on number to go to schematic

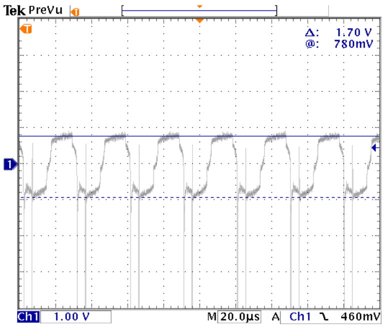
㊲ I601 Pin 1 V OUT



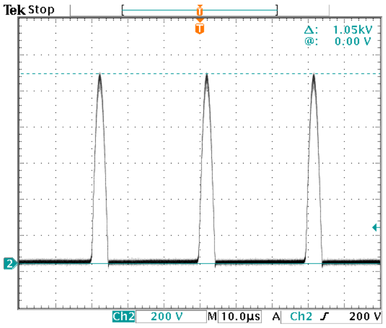
㊳ I701 Pin 7 SIDE PIN OUT



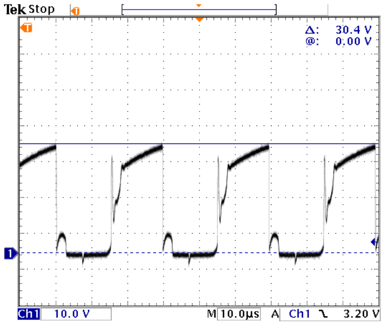
㊴ Q777 B H IN



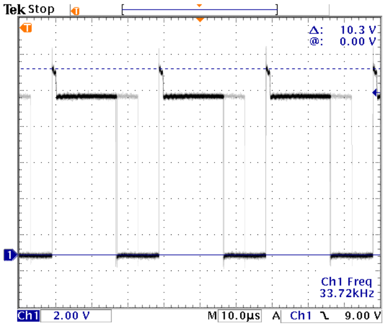
㊵ Q777 C H OUT (USE 100 X PROBE)



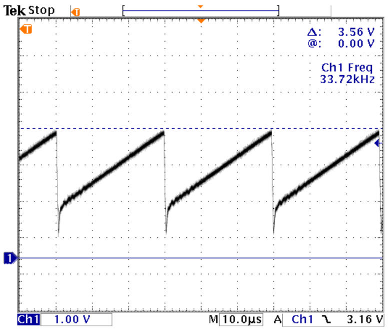
㊶ Q709 C H DRIVE



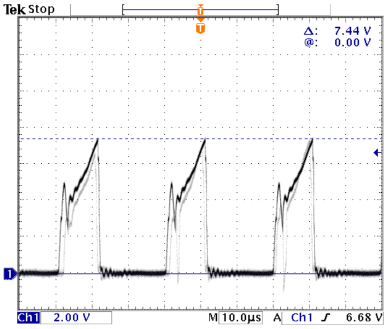
㊷ IH01 Pin 1 HV DRIVE



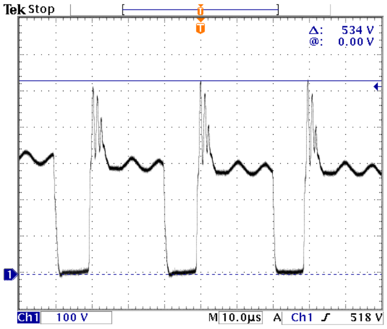
㊸ IH01 Pin 4 RAMP GEN



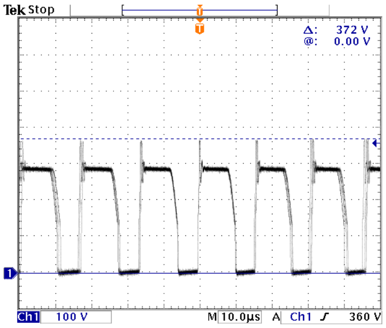
㊹ QH01 G HV DRIVE IN



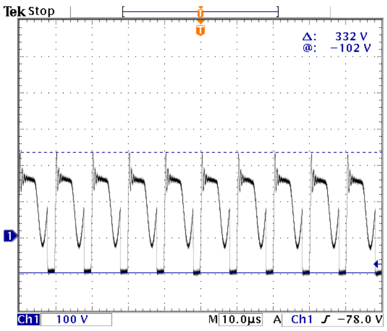
㊺ QH01 D HV OUT



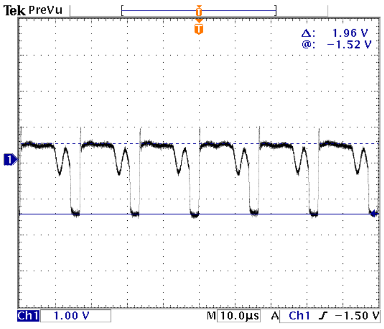
㊻ IP01 Pin 3 DEF SWITCHED OUT



㊼ I901 Pin 7 STBY SWITCHED OUT



㊽ I902 Pin 1 SIGNAL SWITCHED OUT



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IMPORTANT NOTE: FOR HOT AREA USE AC CORD WITH FLOATING GROUND

DP55 DC VOLTAGE TABLES

Symbol	Pin No.	Voltage
PAN1	1	4.5 V
	2	0
	3	9.2 V

Symbol	Pin No.	Voltage
PCB	1	-0.2
	2	0
	3	0
	4	0
	5	0
	6	-0.4

Symbol	Pin No.	Voltage
PCG	1	-0.2
	2	0
	3	0
	4	0.4 V
	5	0
	6	0

Symbol	Pin No.	Voltage
PCR	1	-0.2
	2	0
	3	0
	4	0.4 V
	5	0
	6	0.2 V

Symbol	Pin No.	Voltage
PMB	1	2.8 V
	2	3.7 V
	3	23.7 V
	4	188 V

Symbol	Pin No.	Voltage
PMG	1	1.8 V
	2	2.8 V
	3	23.7 V
	4	188 V

Symbol	Pin No.	Voltage
PPDE	1	125.8 V
	2	N/A
	3	2.2 V

Symbol	Pin No.	Voltage
PDC1	1	226.7 V
	2	-0.1
	3	6.3 V
	4	-0.1

Symbol	Pin No.	Voltage
PDF1	1	274.6 V
	2	N/A
	3	N/A
	4	226.5 V

Symbol	Pin No.	Voltage
PDT3	1	0.2 V
	2	3.1 V
	3	10.5 V
	4	0
	5	-17.5
	6	-17.5
	7	0
	8	0
	9	6.1 V
	10	7 V
	11	7 V

Symbol	Pin No.	Voltage
PDT4	1	0
	2	0
	3	0
	4	0.1 V
	5	0
	6	0.4 V
	7	0

Symbol	Pin No.	Voltage
PFH2	1	0
	2	0

Symbol	Pin No.	Voltage
PMR	1	0.7 V
	2	1.8 V
	3	23.7 V
	4	193.4 V

Symbol	Pin No.	Voltage	Pin No.	Voltage
PCT	1	5.1 V	7	3.8 V
	2	3.5 V	8	0
	3	0	9	3.8 V
	4	0	10	0
	5	3.9 V	11	0
	6	0	12	9.3 V

Symbol	Pin No.	Voltage	Pin No.	Voltage
PDT2	1	0	7	0.9 V
	2	0	8	0
	3	7.6 V	9	1 V
	4	0	10	0
	5	4.8 V	11	0.4 V
	6	0		

Symbol	Pin No.	Voltage	Pin No.	Voltage
PFT1	1	4.5 V	8	0
	2	3.3 V	9	9.3 V
	3	4.8 V	10	0
	4	4.8 V	11	0
	5	0	12	0
	6	0	13	0
	7	4.8 V		

Symbol	Pin No.	Voltage	Pin No.	Voltage
PFT2	1	9.2 V	7	0 V
	2	0 V	8	0 V
	3	0 V	9	0 V
	4	2.5 V	10	0 V
	5	2.5 V	11	9.1 V
	6	0 V		

Symbol	Pin No.	Voltage	Pin No.	Voltage
PPT2	1	5.6 V	11	0
	2	5.6 V	12	0
	3	5.6 V	13	0
	4	5.6 V	14	0
	5	5.6 V	15	0
	6	5.6 V	16	0
	7	5.6 V	17	4.8 V
	8	0 V	18	0
	9	0 V	19	9.9 V
	10	0 V	20	9.9 V

Symbol	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
PST	1	0	31	11.1 V	61	0	91	5.6 V
	2	0	32	-0.1	62	0	92	5.6 V
	3	0	33	0	63	4 V	93	5.6 V
	4	0	34	0	64	3.8 V	94	0
	5	0	35	0	65	0	95	0
	6	0	36	0	66	5.3 V	96	0
	7	0.1 V	37	0	67	5.2 V	97	0
	8	0	38	0	68	5.2 V	98	0
	9	0	39	0	69	0	99	0
	10	0	40	0	70	0.1 V	100	4.8 V
	11	3.3 V	41	0	71	0.1 V	101	4.8 V
	12	0	42	2.1 V	72	0.4 V	102	0
	13	3.4 V	43	0	73	0	103	0
	14	0	44	0	74	0	104	9.8 V
	15	0	45	4.3 V	75	0.4 V	105	9.8 V
	16	0	46	4.3 V	76	0.1 V	106	0
	17	0.4 V	47	0	77	0	107	0
	18	3.3 V	48	0.2 V	78	2.8 V	108	0
	19	0.1 V	49	0.3 V	79	0	109	0
	20	0	50	0	80	3.3 V	110	0
	21	0	51	0	81	3.3 V	111	0
	22	0	52	0	82	3.3 V	112	0
	23	3.4 V	53	0	83	4.7 V	113	0
	24	3.4 V	54	0	84	0	114	0
	25	0	55	0	85	0	115	0
	26	0.1 V	56	4.5 V	86	0	116	0
	27	0	57	4.4 V	87	0	117	0
	28	0	58	4.5 V	88	5.6 V	118	0
	29	0	59	0	89	5.6 V	119	0
	30	11.1 V	60	0	90	5.6 V	120	0

Symbol	Pin No.	Voltage	Pin No.	Voltage
PPT3	1	0.5 V	11	30.1 V
	2	3.9 V	12	30.1 V
	3	7.6 V	13	30.1 V
	4	3.3 V	14	0
	5	0	15	0
	6	4.7 V	16	0
	7	0.2 V	17	0
	8	0	18	0
	9	0	19	0
	10	0	20	0

Symbol	Pin No.	Voltage
PSET	1	1.6 V
	2	1 V
	3	1.9 V
	4	0.9 V
	5	0.1 V
	6	1.5 V
	7	0.4 V
	8	0.8 V
	9	0
	10	5 V

DP55 DC VOLTAGE TABLES

Symbol	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
I001	1	0	30	0	59	0	88	0
	2	0.5 V	31	4.8 V	60	0	89	0
	3	0	32	0	61	0	90	0
	4	4.3 V	33	0	62	0	91	4.9 V
	5	0	34	4.8 V	63	0.1 V	92	4.9 V
	6	2.4 V	35	2.5 V	64	0.1 V	93	4.8 V
	7	0	36	0	65	0.1 V	94	0
	8	0	37	0-4.8 V	66	0.1 V	95	0
	9	0	38	4.8 V	67	0.1 V	96	4.8 V
	10	0	39	4.8 V	68	0.1 V	97	4.8 V
	11	4.8 V	40	0	69	4.8 V	98	4.8 V
	12	1.7 V	41	4.8 V	70	0.1 V	99	4.8 V
	13	0	42	4.8 V	71	0	100	4.8 V
	14	2.1 V	43	4.7 V	72	0.1 V	101	2.9 V
	15	4.8 V	44	0	73	0.1 V	102	0
	16	4.8 V	45	0	74	0.1 V	103	0
	17	0	46	4.8 V	75	0.1 V	104	2.3 V
	18	4.8 V	47	4.8 V	76	0.1 V	105	4.8 V
	19	4.8 V	48	4.8 V	77	0.1 V	106	4.8 V
	20	4.8 V	49	4.8 V	78	0.1 V	107	4.8 V
	21	0	50	4.8 V	79	0	108	4.8 V
	22	0	51	0	80	0	109	2.0 V
	23	0	52	0	81	0	110	1.0 V
	24	0	53	0.4 V	82	4.8 V	111	0
	25	0	54	2.4 V	83	4.8 V	112	4.8 V
	26	4.8 V	55	4.3 V	84	4.8 V	113	2.0 V
	27	0	56	0	85	4.8 V	114	0
	28	4.9 V	57	4.8 V	86	4.8 V	115	2.3 V
	29	4.8 V	58	0	87	4.8 V	116	4.8 V

Symbol	Pin No.	Voltage
I004	1	4.8 V
	2	0
	3	1.3 V
	4	3.3 V
	5	4.8 V

Symbol	Pin No.	Voltage
I591	1	0
	2	3.3 V
	3	9.2 V
	4	9.1 V
	5	9.8 V

Symbol	Pin No.	Voltage
I941	1	2.3 V
	2	0
	3	7.8 V

Symbol	Pin No.	Voltage
I942	1	7.6 V
	2	0
	3	4.9 V

Symbol	Pin No.	Voltage
IC01	1	7.0 V
	2	0
	3	5.0 V

Symbol	Pin No.	Voltage
IP02	1	11.3 V
	2	10.4 V
	3	4.4 V
	4	19.3 V

Symbol	Pin No.	Voltage	Pin No.	Voltage
I006	1	0	4	0
	2	0	5	4.8 V
	3	0	6	4.8 V

Symbol	Pin No.	Voltage	Pin No.	Voltage
I601	1	15.3 V	7	2.9 V
	2	27.4 V	8	3.8 V
	3	4.7 V	9	4.5 V
	4	6.7 V	10	27.8 V
	5	4.5 V	11	0.7 V
	6	0		

Symbol	Pin No.	Voltage	Pin No.	Voltage
I901	1	0.1 V	5	168.3 V
	2	20.8 V	6	0
	3	0	7	218.2 V
	4	2.1 V	8	218.2 V

Symbol	Pin No.	Voltage	Pin No.	Voltage
IK40	1	0	13	28.2 V
	2	0	14	0
	3	5.9 V	15	0
	4	0	16	-24.2 V
	5	-24	17	28.2 V
	6	28.2 V	18	0
	7	0.4 V	19	0
	8	0.4 V	20	0
	9	-24.2 V	21	-24.2 V
	10	0.2 V	22	0
	11	0.2 V	23	0
	12	28.2 V	24	

Symbol	Pin No.	Voltage
I002	1	2.4 V
	2	2.5 V
	3	0.3 V
	4	4.8 V
	5	NC
	6	0
	7	4.8 V
	8	4.8 V

Symbol	Pin No.	Voltage
I005	1	0
	2	0.5 V
	3	0.5 V
	4	0
	5	0
	6	0
	7	0
	8	3.4 V
	9	4.7 V
	10	0
	11	3.4 V
	12	4.8 V
	13	0
	14	3.3 V

Symbol	Pin No.	Voltage
I301	1	0
	2	9.7 V
	3	9.2 V
	4	9.0 V
	5	9.8 V

Symbol	Pin No.	Voltage
I902	1	166 V
	2	0
	3	0
	4	16.0 V
	5	0.1 V
	6	1.4 V
	7	0.5 V

Symbol	Pin No.	Voltage
IK02	1	4.7 V
	2	0
	3	6.2 V

Symbol	Pin No.	Voltage
IP40	1	115.5 V
	2	10.4 V
	3	0

Symbol	Pin No.	Voltage
IP41	1	0
	2	3.6 V
	3	10.5 V
	4	9.0 V
	5	11.3 V

Symbol	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
I401	1	5.5 V	21	5.5 V	41	NC	61	NC
	2	9.1 V	22	0	42	0	62	0
	3	5.5 V	23	5.5 V	43	NC	63	5.5 V
	4	0	24	0	44	0	64	0
	5	NC	25	5.5 V	45	3.8 V	65	5.5 V
	6	0.1 V	26	0	46	0	66	0
	7	NC	27	5.6 V	47	9.1 V	67	5.5 V
	8	9.1 V	28	0	48	NC	68	0
	9	NC	29	5.5 V	49	NC	69	5.5 V
	10	0	30	0	50	3.8 V	70	9.1 V
	11	5.5 V	31	5.5 V	51	3.8 V	71	5.5 V
	12	0.1 V	32	0	52	0	72	0
	13	5.5 V	33	NC	53	9.1 V	73	5.5 V
	14	9.1 V	34	0	54	3.9 V	74	0
	15	5.6 V	35	NC	55	3.8 V	75	5.5 V
	16	3.8 V	36	0	56	3.8 V	76	9.1 V
	17	5.5 V	37	NC	57	9.1 V	77	5.5 V
	18	0	38	0	58	3.9 V	78	0
	19	5.5 V	39	NC	59	3.8 V	79	5.5 V
	20	0	40	0	60	3.8 V	80	0

Symbol	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
I501	1	4.6 V	10	4.6 V	19	4.6 V	28	NC
	2	4.6 V	11	NC	20	0	29	4.6 V
	3	4.6 V	12	NC	21	0	30	4.6 V
	4	4.6 V	13	NC	22	3.8 V	31	9.2 V
	5	4.6 V	14	NC	23	0	32	9.2 V
	6	4.6 V	15	4.6 V	24	0	33	4.6 V
	7	4.6 V	16	4.6 V	25	4.6 V	34	4.6 V
	8	4.6 V	17	4.6 V	26	4.6 V	35	4.6 V
	9	4.6 V	18	4.6 V	27	NC	36	4.6 V

Symbol	Pin No.	Voltage
I903	1	22.4 V
	2	25.3 V
	3	0.6 V
	4	5.1 V

Symbol	Pin No.	Voltage
I904	1	7.5 V
	2	6.6 V
	3	0
	4	2.1 V

Symbol	Pin No.	Voltage
I905	1	15.9 V
	2	17.6 V
	3	0
	4	4.8 V

Symbol	Pin No.	Voltage
I906	1	8.9 V
	2	7.8 V
	3	7.7 V
	4	15.2 V

Symbol	Pin No.	Voltage
IP01	1	2.3 V
	2	0.1 V
	3	163.6 V
	4	19.3 V
	5	0

Symbol	Pin No.	Voltage	Pin No.	Voltage
I701	1	10.2 V	5	5.4 V
	2	1.0 V	6	5.4 V
	3	1.5 V	7	3.7 V
	4	0	8	10.5 V

Symbol	Pin No.	Voltage	Pin No.	Voltage
IA02	1	1.6 V	7	14.5 V
	2	0	8	5.1 V
	3	0	9	30.5 V
	4	0	10	0
	5	1.6 V	11	4.3 V
	6	10.3 V	12	14.0 V

Symbol	Pin No.	Voltage	Pin No.	Voltage
IH01	1	5.8 V	9	4.8 V
	2	10.3 V	10	0
	3	0.6 V	11	0
	4	2.5 V	12	4.8 V
	5	1.6 V	13	2.8 V
	6	0	14	2.0 V
	7	1.8 V	15	5.0 V
	8	0	16	0

Symbol	Pin No.	Voltage	Pin No.	Voltage
IS01	1	0	5	4.9 V
	2	0	6	0
	3	0	7	0
	4	0	8	4.9 V

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Symbol	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
IK41	1	0	9	-24.2 V	17	0
	2	0	10	0.1 V	18	0
	3	5.9 V	11	0.1 V	19	0
	4	0	12	28.2 V	20	0
	5	-24.2 V	13	28.2 V	21	-24.2 V
	6	28.2 V	14	0	22	0
	7	0.1 V	15	0	23	0
	8	0.1 V	16	-24.2 V		

Symbol	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
IT01	1	2.5 V	17	3.5 V	33	2.6 V
	2	2.5 V	18	4.9 V	34	0
	3	2.5 V	19	NC	35	4.9 V
	4	2.3 V	20	NC	36	3.5 V
	5	0.1 V	21	NC	37	2.6 V
	6	0	22	NC	38	0
	7	0	23	0	39	4.9 V
	8	2.6 V	24	0	40	3.5 V
	9	3.5 V	25	2.6 V	41	2.6 V
	10	4.9 V	26	4.9 V	42	0
	11	0	27	NC	43	0
	12	2.4 V	28	NC	44	4.9 V
	13	3.5 V	29	0	45	5.6 V
	14	4.9 V	30	NC	46	2.6 V
	15	0	31	4.9 V	47	2.6 V
	16	2.6 V	32	3.5 V	48	2.4 V

Symbol	Pin No.	Voltage
IT02	1	2.6 V
	2	2.6 V
	3	2.6 V
	4	-5
	5	2.6 V
	6	2.6 V
	7	2.6 V
	8	4.9 V

Symbol	Pin No.	Voltage
IT03	1	2.5 V
	2	2.5 V
	3	2.5 V
	4	-5
	5	2.6 V
	6	2.6 V
	7	2.6 V
	8	4.9 V

Symbol	Pin No.	Voltage
IT04	1	2.4 V
	2	2.4 V
	3	2.4 V
	4	-5
	5	2.6 V
	6	2.6 V
	7	2.6 V
	8	4.9 V

Symbol	Pin No.	Voltage
IT05	1	0
	2	2.0 V
	3	2.0 V
	4	-5
	5	2.0 V
	6	2.0 V
	7	0
	8	5.0 V

Symbol	Pin No.	Voltage
IT06	1	0
	2	2.0 V
	3	2.0 V
	4	-5
	5	2.0 V
	6	2.0 V
	7	0
	8	5.0 V

Symbol	Pin No.	Voltage
IT07	1	0.4 V
	2	2.0 V
	3	2.0 V
	4	-5.2 V
	5	2.0 V
	6	2.0 V
	7	0
	8	4.9 V

Symbol	Pin No.	Voltage
IX02	1	0
	2	3.3 V
	3	9.3 V
	4	9.0 V
	5	9.8 V

Symbol	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
IS06	1	3.3 V	25	0	49	0	73	3.3 V	97	NC	121	2.45 V
	2	NC	26	NC	50	0	74	NC	98	2.5 V	122	2.45 V
	3	NC	27	0	51	4.9 V	75	NC	99	NC	123	2.45 V
	4	NC	28	4.9 V	52	2.3 V	76	NC	100	NC	124	2.45 V
	5	4.9 V	29	0.1 V	53	0	77	NC	101	NC	125	2.45 V
	6	NC	30	0	54	4.9 V	78	NC	102	0	126	4.92 V
	7	4.9 V	31	0.1 V	55	0	79	2.5 V	103	2.4 V	127	0
	8	NC	32	NC	56	NC	80	NC	104	NC	128	2.45 V
	9	0	33	0.6 V	57	0.2 V	81	0	105	NC	129	2.45 V
	10	NC	34	0	58	NC	82	NC	106	NC	130	0
	11	NC	35	0.1 V	59	NC	83	NC	107	NC	131	2.45 V
	12	4.9 V	36	NC	60	2.5 V	84	2.6 V	108	NC	132	2.45 V
	13	NC	37	3.3 V	61	NC	85	NC	109	3.3 V	133	2.45 V
	14	4.9 V	38	3.5 V	62	NC	86	NC	110	5 V	134	2.45 V
	15	NC	39	2.2 V	63	NC	87	NC	111	0	135	0
	16	0	40	0	64	2.6 V	88	0.2 V	112	0	136	0
	17	NC	41	NC	65	3.3 V	89	NC	113	0	137	3.3 V
	18	4.9 V	42	NC	66	0	90	4.9 V	114	0	138	0
	19	0	43	NC	67	NC	91	0	115	0	139	0
	20	4.9 V	44	4.9 V	68	NC	92	NC	116	0	140	4.91 V
	21	0	45	0	69	NC	93	NC	117	0	141	4.91 V
	22	3.3 V	46	4.9 V	70	NC	94	NC	118	0	142	4.91 V
	23	1.7 V	47	4.9 V	71	NC	95	NC	119	2.45 V	143	0
	24	1.7 V	48	0	72	NC	96	NC	120	2.45 V	144	0

Symbol	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
IS07	1	0.8 V	17	0	33	0	49	0	65	0
	2	1.2 V	18	2.5 V	34	4.9 V	50	4.9 V	66	0
	3	4.9 V	19	2.5 V	35	0	51	0	67	4.9 V
	4	NC	20	2.5 V	36	0.1 V	52	0	68	0
	5	3.4 V	21	2.5 V	37	0	53	4.9 V	69	4.9 V
	6	3.4 V	22	2.5 V	38	0	54	4.9 V	70	NC
	7	5.2 V	23	2.5 V	39	0	55	0	71	4.9 V
	8	0	24	2.5 V	40	0	56	NC	72	3.5 V
	9	0	25	0	41	0	57	NC	73	2.2 V
	10	0	26	4.9 V	42	2.5 V	58	NC	74	0
	11	2.4 V	27	0.5 V	43	2.5 V	59	4.9 V	75	0.2 V
	12	4.9 V	28	0.1 V	44	2.5 V	60	4.9 V	76	0.6 V
	13	4.9 V	29	0	45	2.5 V	61	4.9 V	77	2.3 V
	14	0	30	4.9 V	46	2.5 V	62	0	78	0.3 V
	15	0	31	4.9 V	47	2.5 V	63	0	79	0.5 V
	16	0	32	0	48	2.5 V	64	0	80	1.6 V

Symbol	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
IX01	1	0	17	0	33	0	49	1.3 V	65	0
	2	0	18	3.9 V	34	0	50	0.1 V	66	5.1 V
	3	0	19	3.9 V	35	5.0 V	51	0	67	5.2 V
	4	4.9 V	20	0	36	0	52	0.1 V	68	5.4 V
	5	0	21	3.9 V	37	1.0 V	53	2.1 V	69	0
	6	5.0 V	22	0	38	0	54	0	70	5.4 V
	7	4.9 V	23	0.1 V	39	1.0 V	55	0	71	0.5 V
	8	9.1 V	24	4.0 V	40	2.5 V	56	0	72	0
	9	0	25	4.0 V	41	2.9 V	57	7.7 V	73	0
	10	0	26	4.0 V	42	5.5 V	58	6.2 V	74	5.6 V
	11	0	27	0	43	0	59	0	75	9.2 V
	12	2.8 V	28	3.8 V	44	6.7 V	60	5.0 V	76	0
	13	2.9 V	29	0	45	9.2 V	61	5.0 V	77	4.5 V
	14	3.0 V	30	4.0 V	46	0	62	0	78	5.9 V
	15	0	31	2.0 V	47	NC	63	5.0 V	79	0
	16	9.1 V	32	0	48	0	64	1.0 V	80	0

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Symbol	Pin No.	Voltage
Q603	1	0.0
	2	0.8 V
	3	0

Symbol	Pin No.	Voltage
Q604	1	27.9 V
	2	0
	3	28.2 V

Symbol	Pin No.	Voltage
Q701	1	97.9 V
	2	115.3 V
	3	96.9 V

Symbol	Pin No.	Voltage
Q703	1	2.5 V
	2	97.9 V
	3	2.0 V

Symbol	Pin No.	Voltage
Q706	1	0.5 V
	2	10.5 V
	3	1.0 V

Symbol	Pin No.	Voltage
Q709	1	0.4 V
	2	12.7 V
	3	0

Symbol	Pin No.	Voltage
Q710	1	0.04 V
	2	0.4 V
	3	2.0 V

Symbol	Pin No.	Voltage
Q777	1	-0.1
	2	74.7 V
	3	0

Symbol	Pin No.	Voltage
Q901	B	0
	C	17.6 V
	E	0

Symbol	Pin No.	Voltage
Q942	B	0.7 V
	C	-0.1
	E	-0.1

Symbol	Pin No.	Voltage
Q944	B	0.7 V
	C	0.4 V
	E	-0.1

Symbol	Pin No.	Voltage
Q980	B	0.1 V
	C	3.1 V
	E	-0.1

Symbol	Pin No.	Voltage
Q981	B	3.1 V
	C	0.1 V
	E	3.1 V

Symbol	Pin No.	Voltage
QC16	B	-16.9
	C	-5.2
	E	-17.4

Symbol	Pin No.	Voltage
QF01	1	9.7 V
	2	550 V
	3	9.2 V

Symbol	Pin No.	Voltage
QH01	G	1.7 V
	D	251.3 V
	S	0.3 V

Symbol	Pin No.	Voltage
QH02	1	0.5 V
	2	1.7 V
	3	0

Symbol	Pin No.	Voltage
QH03	1	0
	2	67.9 V
	3	0

Symbol	Pin No.	Voltage
QH04	1	0
	2	1.7 V
	3	0

Symbol	Pin No.	Voltage
QH05	1	0
	2	68.8 V
	3	0

Symbol	Pin No.	Voltage
QP01	1	4.4 V
	2	19.3 V
	3	3.9 V

Symbol	Pin No.	Voltage
QP40	1	7.1 V
	2	7.1 V
	3	6.4 V

Symbol	Pin No.	Voltage
QP41	1	115.4 V
	2	1.9 V
	3	115.8 V

Symbol	Pin No.	Voltage
QX17	B	2.6 V
	C	9.2 V
	E	2.0 V

Symbol	Pin No.	Voltage
QX25	B	4.4 V
	C	0
	E	5.1 V

Symbol	Pin No.	Voltage
QX30	B	2.8 V
	C	0
	E	3.5 V

Symbol	Pin No.	Voltage
QX34	B	2.9 V
	C	0
	E	3.5 V

Symbol	Pin No.	Voltage
QX36	B	3.0 V
	C	0
	E	3.7 V

Symbol	Pin No.	Voltage
D955	1	-1.7
	2	5.6 V
	3	-1.7

TABLE OF CONTENTS

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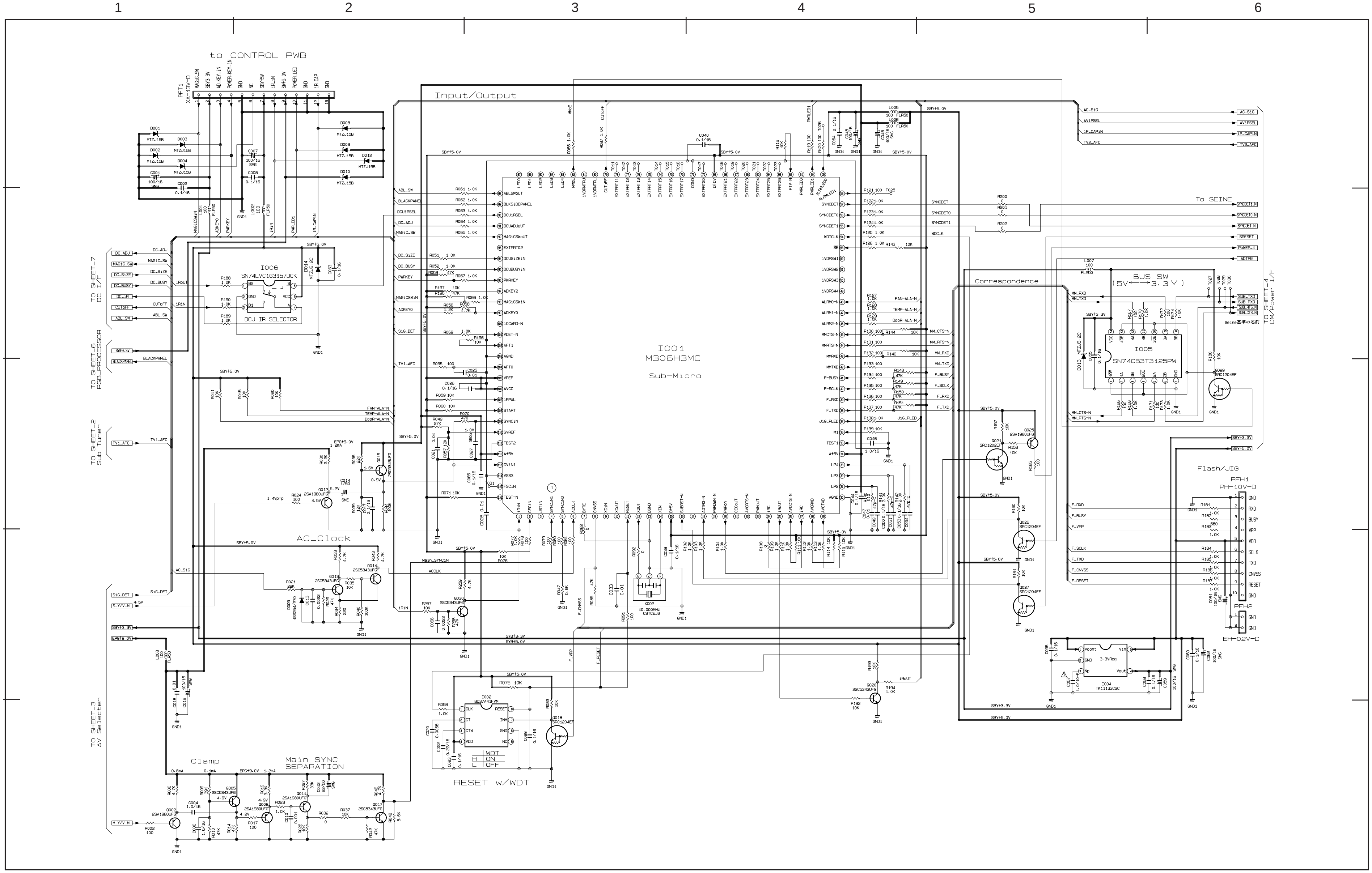
BASIC CIRCUIT DIAGRAM

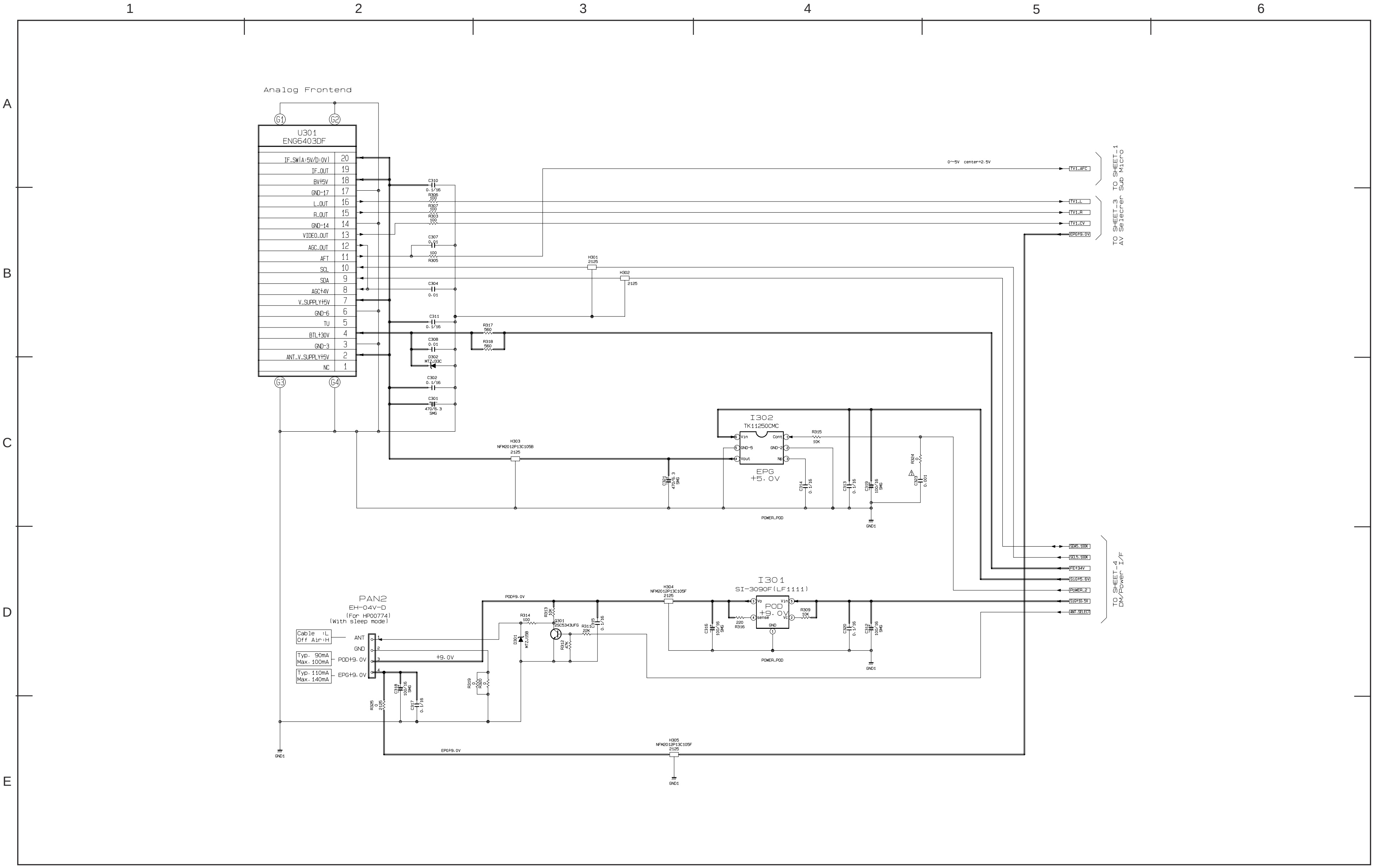

to CONTROL PWB
Input/Output
I001
M306H3MC
Sub-Micro
I006
SN74LVC1G3157DCK
DCU IR SELECTOR
I005
SN74CB3T3125PW
BUS SW
Correspondence
To SEINE
TO SHEET_4 DN/Power I/F
TO SHEET_7 DC I/F
TO SHEET_6 RGB_PROCESSOR
TO SHEET_2 Sub Tuner
TO SHEET_3 AV Selecter
AC_Clock
Clamp
Main SYNC SEPARATION
RESET w/WDT
I002 BD37A41FVM
I004 TK11133CSC
3.3VReg
Flash/JIG
PFH1 PH-10V-D
PFH2 EH-02V-D
X002 10.000MHz CSTCE_G
WDT H ON L OFF

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

SUB MICRO

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
Analog Frontend
G1
G2
U301
ENG6403DF
IF_SW(A:5V/D:0V) 20
IF_OUT 19
BV+5V 18
GND-17 17
L_OUT 16
R_OUT 15
GND-14 14
VIDEO_OUT 13
AGC_OUT 12
AFT 11
SCL 10
SDA 9
AGC+4V 8
V_SUPPLY+5V 7
GND-6 6
TU 5
BTL+30V 4
GND-3 3
ANT_V_SUPPLY+5V 2
NC 1
G3
G4
C310 0.1/16
R306 100
R307 100
R303 100
C307 0.01
100 R305
C304 0.01
C311 0.1/16
R317 560
R318 560
C308 0.01
D302 MTZJ33C
C302 0.1/16
C301 470/6.3 SMG
H301 2125
H302 2125
H303 NFM2012P13C105B 2125
0~5V center=2.5V
TV1_AFC
TV1_L
TV1_R
TV1_CV
EPG+9.0V
TO SHEET_1 Sub Micro
TO SHEET_3 AV Selecrer
I302
TK11250CMC
Vin 6
GND-5 5
Vout 4
Cont 1
GND-2 2
Np 3
EPG +5.0V
R315 10K
C321 470/6.3 SMG
C314 0.1/16
C313 0.1/16
C319 100/16 SMG
R324 0
C323 0.001
POWER_POD
GND1
SDA5_100K
SCL5_100K
FE+34V
SiG+5.6V
PoWER_2
SiG+10.5V
ANT_SELECT
TO SHEET_4 DM/Power I/F
PAN2
EH-04V-D
(For HP00774)
(With sleep mode)
Cable :L
Off Air:H
ANT 1
GND 2
Typ. 90mA
Max. 100mA
POD+9.0V 3
Typ. 110mA
Max. 140mA
EPG+9.0V 4
+9.0V
POD+9.0V
R314 100
R313 10K
Q301 2SC5343UFG
R311 22K
C315 0.1/16
D301 MTZJ15B
R312 47K
R319 0
R320 0
R325 0 2125
C318 100/16 SMG
C317 0.1/16
H304 NFM2012P13C105F 2125
I301
SI-3090F(LF1111)
Vo 3
sense 4
Vin 5
Vc 2
GND 1
POD +9.0V
220 R316
R309 10K
C316 100/16 SMG
C320 0.1/16
C312 100/16 SMG
POWER_POD
GND1
EPG+9.0V
H305 NFM2012P13C105F 2125
GND1
GND1

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

TUNER

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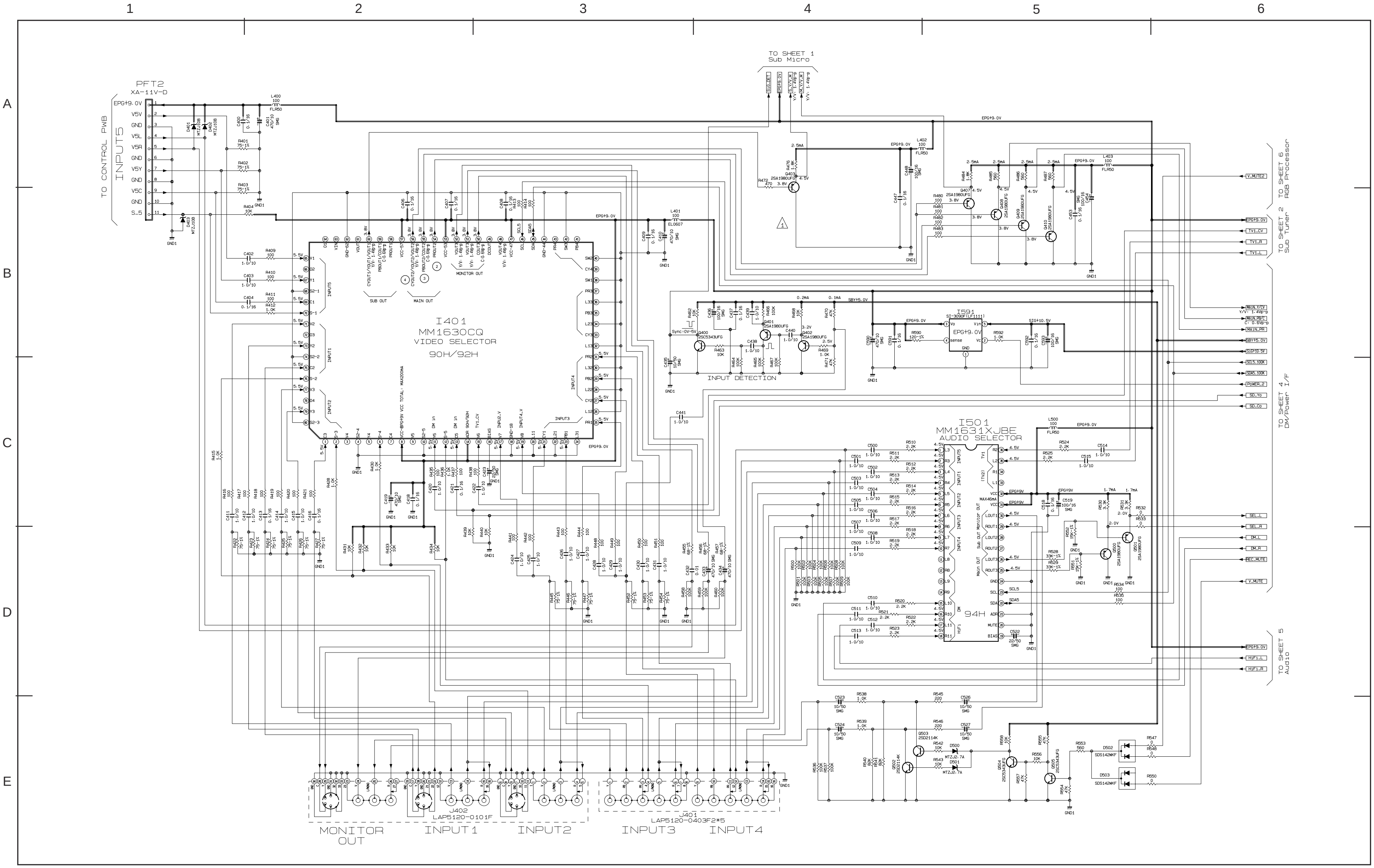
BASIC CIRCUIT DIAGRAM

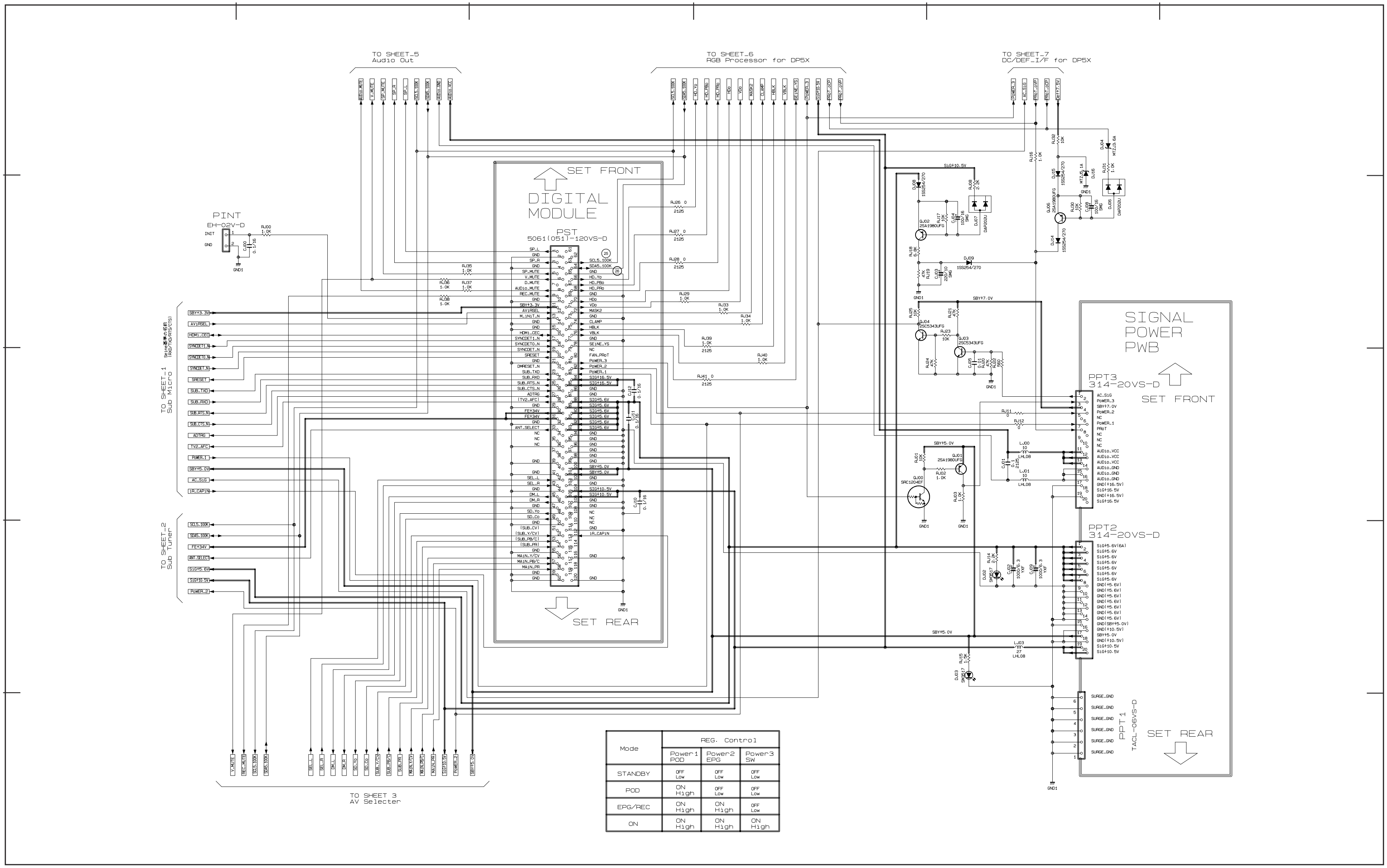

1
2
3
4
5
6
A
B
C
D
E
PFT2
XA-11V-D
TO CONTROL PWB
INPUT5
EPG+9.0V
V5V
GND
V5L
V5R
V5Y
V5C
S_5
TO SHEET 1
Sub Micro
I401
MM1630CQ
VIDEO SELECTOR
90H/92H
SUB OUT
MAIN OUT
MONITOR OUT
INPUT DETECTION
I591
I501
MM1631XJBE
AUDIO SELECTOR
94H
TO SHEET 6
RGB Processor
TO SHEET 2
Sub Tuner
TO SHEET 4
DM/Power I/F
TO SHEET 5
Audio
V_MUTE2
TV1_CV
TV1_R
TV1_L
SEL_L
SEL_R
DM_L
DM_R
REC_MUTE
V_MUTE
HIFI_L
HIFI_R
J402
LAP5120-0101F
J401
LAP5120-0403F2*5
MONITOR
OUT
INPUT1
INPUT2
INPUT3
INPUT4

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AV SELECTOR

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
TO SHEET_5
Audio Out
TO SHEET_6
RGB Processor for DP5X
TO SHEET_7
DC/DEF_I/F for DP5X
SET FRONT
DIGITAL
MODULE
PST
5061(051)-120VS-D
SET REAR
PINT
EH-02V-D
INIT
GND
GND1
TO SHEET_1
Sub Micro
TO SHEET_2
Sub Tuner
TO SHEET 3
AV Selecter
SIGNAL
POWER
PWB
PPT3
314-20VS-D
SET FRONT
PPT2
314-20VS-D
PPT1
TACL-06VS-D
SET REAR
SIG+10.5V
SBY+7.0V
SBY+5.0V

Mode	REG. Control		
	Power1 POD	Power2 EPG	Power3 SW
STANDBY	OFF Low	OFF Low	OFF Low
POD	ON High	OFF Low	OFF Low
EPG/REC	ON High	ON High	OFF Low
ON	ON High	ON High	ON High

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
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DM/POWER I/F

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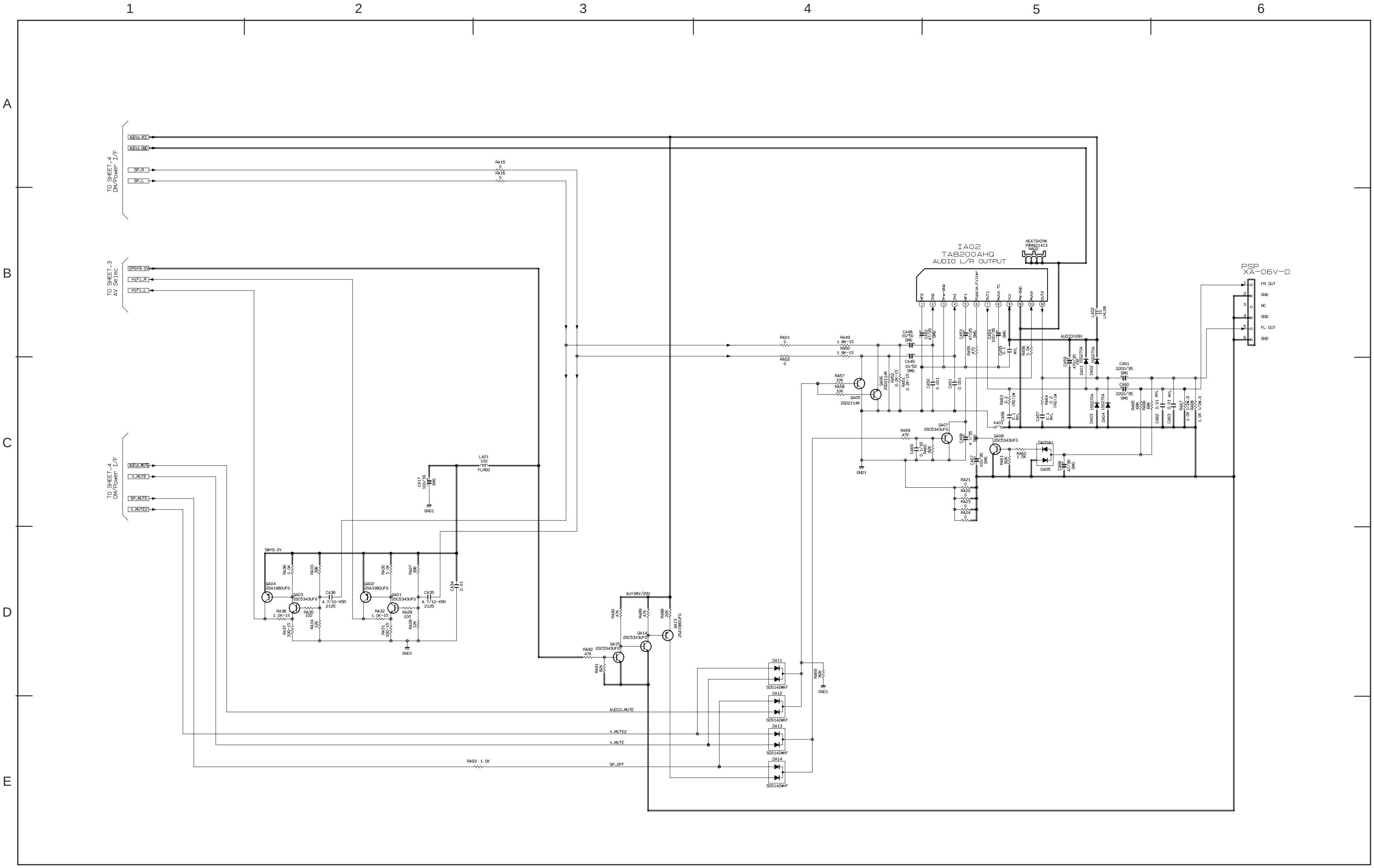
BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
TO SHEET_4
DM/Power I/F
AUDio_VCC
AUDio_GND
SP_R
SP_L
RA15
0
RA16
0
TO SHEET_3
AV Selec
EPG+9.0V
HiFi_R
HiFi_L
TO SHEET_4
DM/Power I/F
AUDio_MUTE
V_MUTE
SP_MUTE
V_MUTE2
LA01
100
FLR50
CA17
100/16
SMG
GND1
SW+9.0V
RA36 1.0K
RA33 39K
RA30 1.0K
RA27 39K
QA04
2SA1980UFG
QA03
2SC5343UFG
CA36
4.7/10-X5R
2125
QA02
2SA1980UFG
QA01
2SC5343UFG
CA35
4.7/10-X5R
2125
CA34
0.01
RA38
1.0K-1%
RA35
100
RA32
1.0K-1%
RA29
100
RA37 330-1%
RA34 12K
RA31 330-1%
RA28 12K
GND1
AU+38V/29V
RA90 47K
RA89 47K
RA88 22K
QA13
2SA1980UFG
QA14
2SC5343UFG
QA15
2SC5343UFG
RA92
47K
RA91 82K
DA11
SDS142WKF
DA12
SDS142WKF
DA13
SDS142WKF
DA14
SDS142WKF
RA69 82K
GND1
AUDIO_MUTE
V_MUTE2
V_MUTE
RA93 1.0K
SP_OFF
IA02
TA8200AHQ
AUDIO L/R OUTPUT
HEATSHINK
P#MA01413
NA02
NF2
IN2
Pre-GND
IN1
NF1
Ripple_Filter
OUT1
Mute.TC
Vcc
PW-GND
Mute
OUT2
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
LA02
10
LHL08
AUDIO+29V
RA01
0
RA02
0
RA49
1.8K-1%
RA50
1.8K-1%
CA48
10/50
SMG
CA49
10/50
SMG
CA52
47/25
SMG
CA53
47/25
SMG
CA54
100/35
SMG
RA55
470
CA55
0.1
MYL
RA56
1.0K
CA59
470/35
YXF
DA01 1SS270A
DA02 1SS270A
CA61
2200/35
SMG
CA60
2200/35
SMG
RA57
10K
RA58
10K
QA05
2SD2114K
QA06
2SD2114K
RA52
2.2K-1%
RA51
2.2K-1%
CA50
0.001
CA51
0.001
RA63
2.2
(RS)1W
RA64
2.2
(RS)1W
CA56
0.1
MYL
CA57
0.1
MYL
KA01
DA03 1SS270A
DA04 1SS270A
RA65
68K
RA66
68K
CA62
0.01 MYL
CA63
0.01 MYL
RA67
1.0K 1/2W_S
RA68
1.0K 1/2W_S
GND1
RA59
47K
QA07
2SC5343UFG
CA69
0.1/16
RA60
82K
CA68
4.7/35
SMG
QA08
2SC5343UFG
RA62
1.0K
DA204U
DA05
RA61
82K
CA67
100/35
SMG
CA66
47/35
SMG
RA21
0
RA22
0
RA23
0
RA24
0
PSP
XA-06V-D
1 FR OUT
2 GND
3 NC
4 GND
5 FL OUT
6 GND

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
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AUDIO

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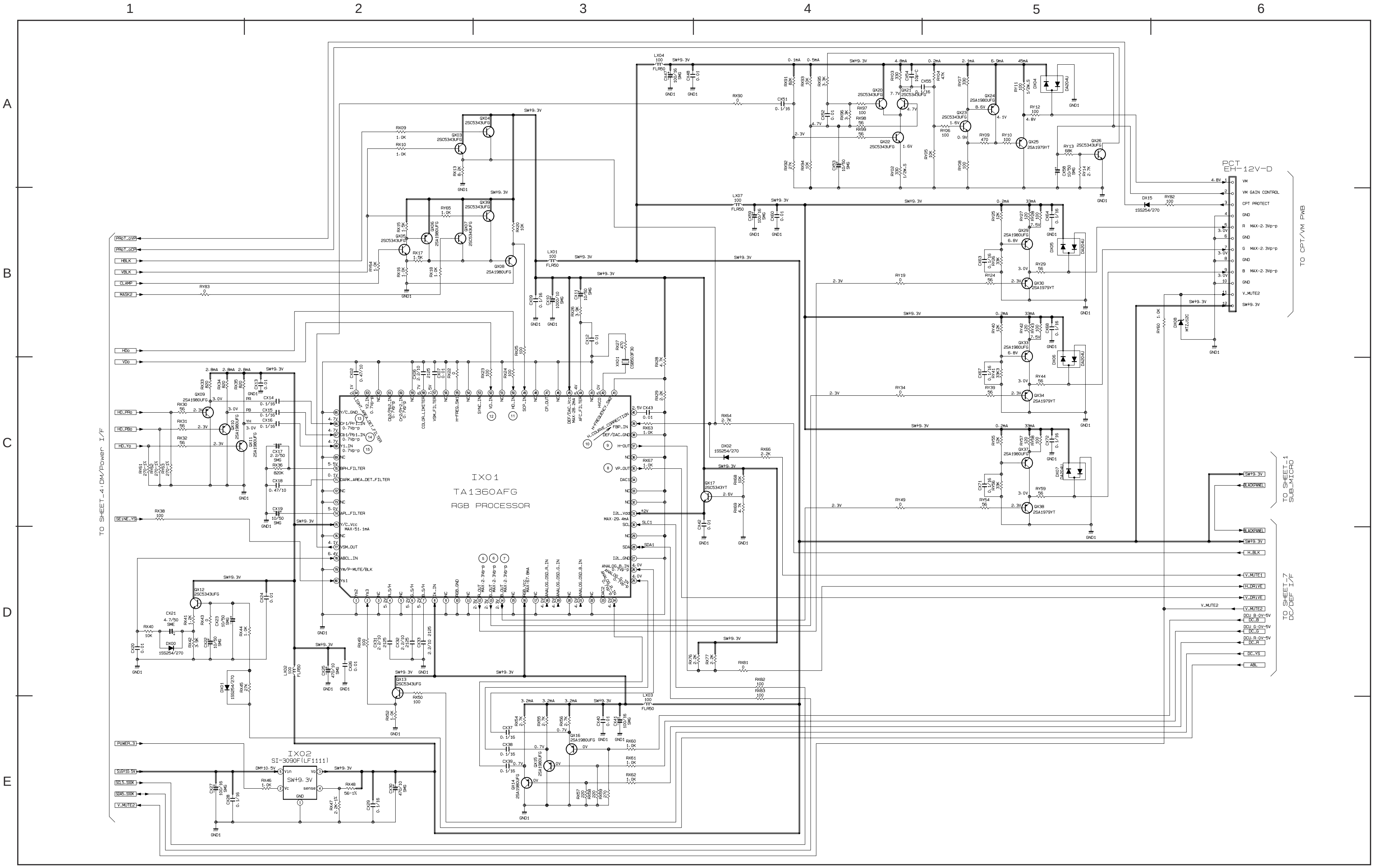
BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
IX01
TA1360AFG
RGB PROCESSOR
IX02
SI-3090F(LF1111)
PCT
EH-12V-D
VM
VM GAIN CONTROL
CPT PROTECT
GND
R MAX:2.3Vp-p
G MAX:2.3Vp-p
B MAX:2.3Vp-p
V_MUTE2
SW+9.3V
TO CPT/VM PWB
TO SHEET_4:DM/Power I/F
TO SHEET_1 SUB_MICRO
TO SHEET_7 DC/DEF I/F
PROT_GYR
PROT_DCP
HBLK
VBLK
CLAMP
MASK2
HDo
VDo
HD_PRo
HD_PBo
HD_Yo
SEINE_YS
POWER_3
SUPPLY_5V
SCL5_300K
SDA5_300K
V_MUTE2
BLACKPANEL
H_BLK
V_MUTE1
H_DRIVE
V_DRIVE
DC_B
DC_G
DC_R
DC_YS
ABL
GND1
LX01
LX02
LX03
LX04
LX07
FLR50
QX03
QX04
QX05
QX06
QX07
QX08
QX09
QX10
QX11
QX12
QX13
QX14
QX15
QX16
QX17
QX20
QX21
QX22
QX23
QX24
QX25
QX26
QX29
QX30
QX33
QX34
QX37
QX38
2SC5343UFG
2SA1980UFG
2SA1979YT
DX00
DX01
DX02
DX15
1SS254/270
DA204U
MTZJ12C

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
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RGB PROCESSOR

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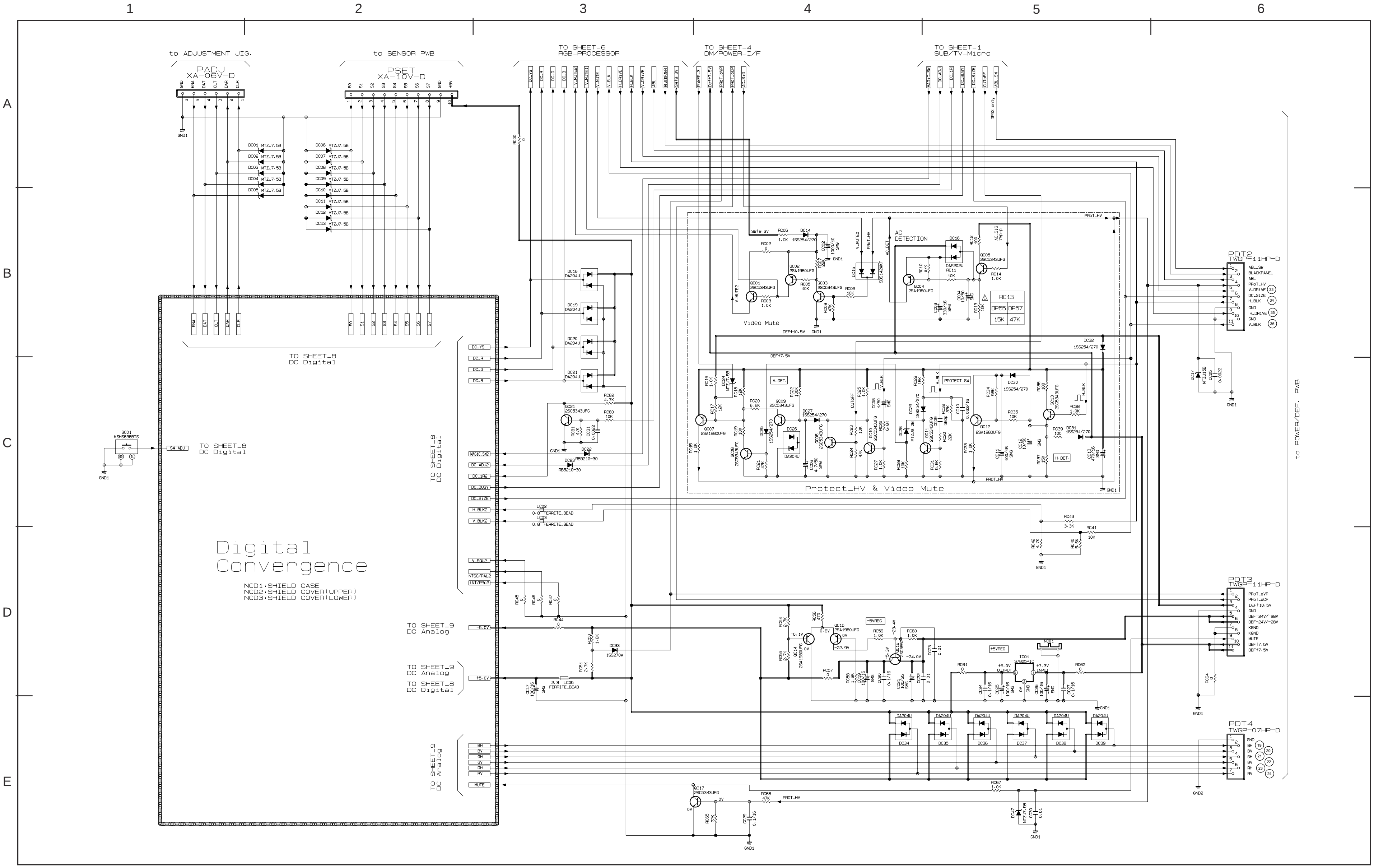
BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
to ADJUSTMENT JIG.
PADJ
XA-06V-D
GND
EN4
DAT
CLT
DAR
CLR
to SENSOR PWB
PSET
XA-10V-D
S0
S1
S2
S3
S4
S5
S6
S7
GND
+5V
TO SHEET_6
RGB_PROCESSOR
DC_YS
DC_R
DC_G
DC_B
V_MUTE2
V_MUTE1
V_MUTE
V_BLK
H_DRiVE
H_BLK
V_DRiVE
ABL
BLACKPANEL
SW+9.3V
TO SHEET_4
DM/POWER_I/F
PoWER_3
Def+7.5V
PRoT_oVP
PRoT_oCP
AC_SiG
TO SHEET_1
SUB/TV_Micro
MAGiC_SW
DC_ADJ
DC_iR
DC_BUSY
DC_SiZE
CUToFF
ABL_SW
DP5X only
RC00
DC01 MTZJ7.5B
DC02 MTZJ7.5B
DC03 MTZJ7.5B
DC04 MTZJ7.5B
DC05 MTZJ7.5B
DC06 MTZJ7.5B
DC07 MTZJ7.5B
DC08 MTZJ7.5B
DC09 MTZJ7.5B
DC10 MTZJ7.5B
DC11 MTZJ7.5B
DC12 MTZJ7.5B
DC13 MTZJ7.5B
GND1
TO SHEET_8
DC Digital
Digital
Convergence
NCD1:SHIELD CASE
NCD2:SHIELD COVER(UPPER)
NCD3:SHIELD COVER(LOWER)
SC01
KSHS636BTS
SW_ADJ
TO SHEET_8
DC Digital
TO SHEET_9
DC Analog
TO SHEET_9
DC Analog
TO SHEET_8
DC Digital
TO SHEET_9
DC Analog
V_SQU2
NTSC/PAL2
INT/PRG2
-5.0V
+5.0V
BH
BV
GH
GV
RH
RV
MUTE
DC18 DA204U
DC19 DA204U
DC20 DA204U
DC21 DA204U
QC21 2SC5343UFG
DC22 RB521G-30
DC23 RB521G-30
LC02 0.8 FERRITE_BEAD
LC03 0.8 FERRITE_BEAD
RC44
DC33 1SS270A
LC05 FERRITE_BEAD
AC DETECTION
Video Mute
DEF+10.5V
DEF+7.5V
SW+9.3V
V-MUTE2
PROT_HV
QC01 2SC5343UFG
QC02 2SA1980UFG
QC03 2SC5343UFG
QC04 2SA1980UFG
QC05 2SC5343UFG
DC14 1SS254/270
DC15
DC16
DAP202U
RC13
DP55
DP57
15K
47K
V.DET.
PROTECT SW
H.DET.
QC07 2SA1980UFG
QC08 2SC5343UFG
QC09 2SC5343UFG
QC10 2SC5343UFG
QC11 2SC5343UFG
QC12 2SA1980UFG
QC13 2SC5343UFG
DC26 DA204U
DC27 1SS254/270
DC30 1SS254/270
DC31 1SS254/270
DC32 1SS254/270
Protect_HV & Video Mute
RC41 10K
RC42 4.7K
RC43 3.3K
PDT2
TWGP-11HP-D
ABL_SW
BLACKPANEL
ABL
PRoT_HV
V_DRiVE
DC_SiZE
H_BLK
GND
H_DRiVE
GND
V_BLK
33
34
35
36
DC17 MTZJ15B
CC05 0.0022
to POWER/DEF. PWB
PDT3
TWGP-11HP-D
PRoT_oVP
PRoT_oCP
DEF+10.5V
GND
DEF-24V/-28V
DEF-24V/-28V
KGND
KGND
MUTE
DEF+7.5V
DEF+7.5V
RC64 0
QC14 2SA1980UFG
QC15 2SA1980UFG
QC16
-5VREG
+5VREG
IC01 S7805PIC
+5.0V OUTPUT
+7.3V INPUT
-22.9V
-24.0V
DC34
DC35
DC36
DC37
DC38
DC39
DA204U
PDT4
TWGP-07HP-D
GND
BH
BV
GH
GV
RH
RV
19
20
21
22
23
24
GND2
QC17 2SC5343UFG
RC65
RC66 47K
CC29 0.1/16
RC67 1.0K
DC47 MTZJ7.5B
CC30 0.01

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

DC/DEF I/F

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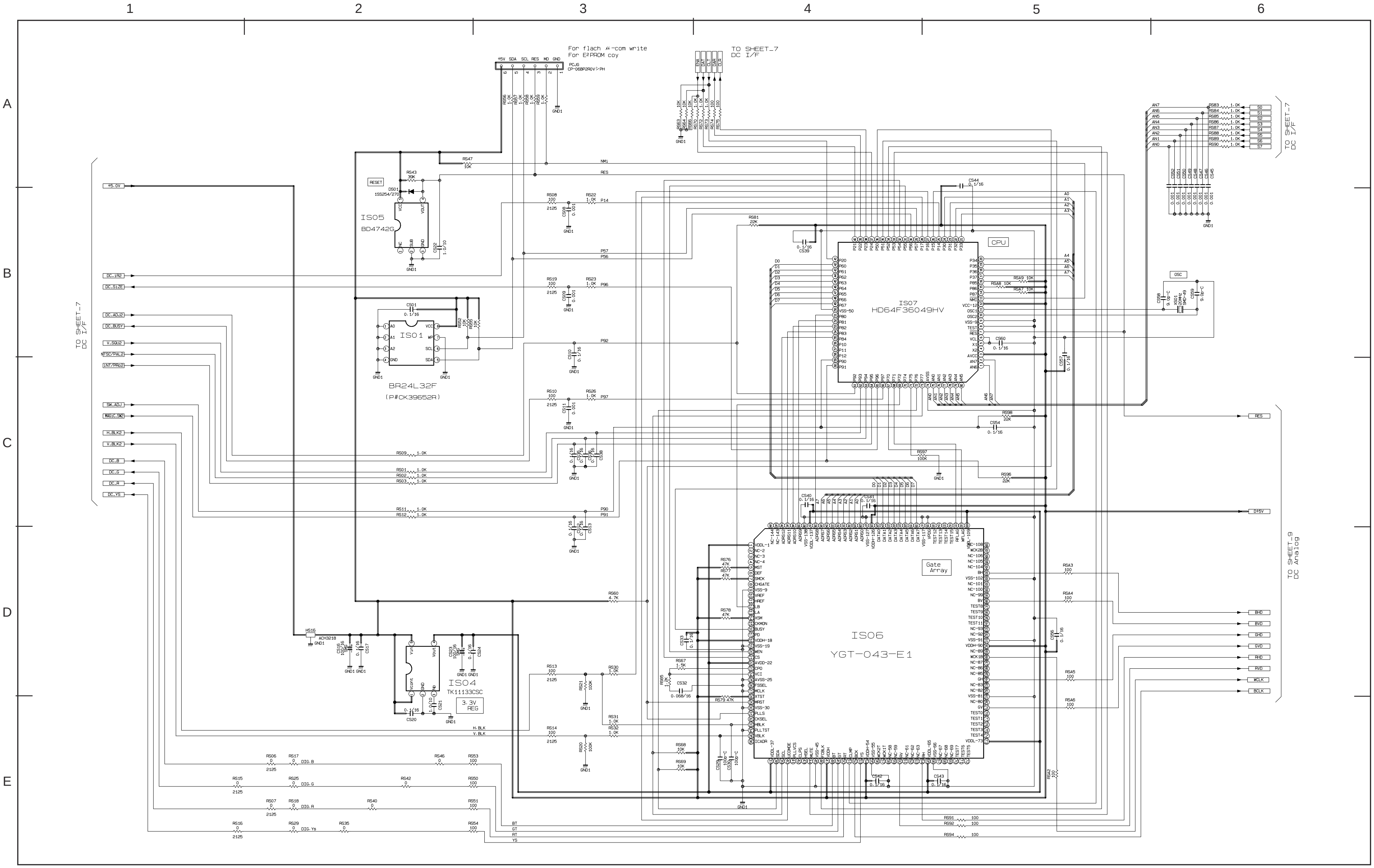
BASIC CIRCUIT DIAGRAM

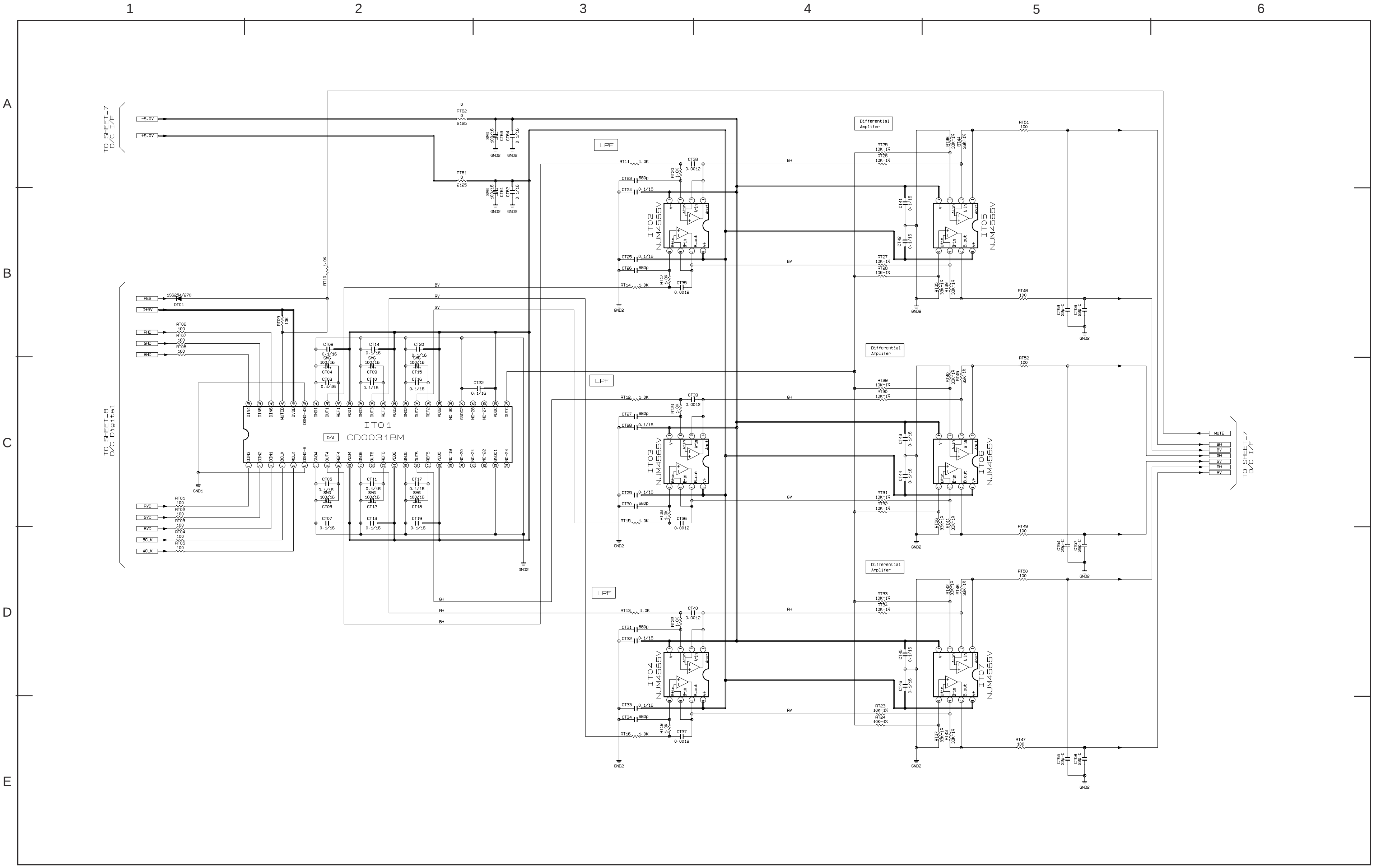

1
2
3
4
5
6
A
B
C
D
E
For flach μ-com write
For E²PROM coy
PCJ6
CP-06BP2RDV
+5V SDA SCL RES MD GND
TO SHEET_7
DC I/F
RESET
IS05
BD4742G
IS01
BR24L32F
(P#CK39652R)
IS04
TK11133CSC
3.3V
REG
IS07
HD64F36049HV
CPU
OSC
IS06
YGT-043-E1
Gate
Array
+5.0V
DC.1R2
DC.SIZE
DC.ADJ2
DC.BUSY
V.SQU2
NTSC/PAL2
INT/PRG2
SW.ADJ
MAGIC.SW2
H.BLK2
V.BLK2
DC.B
DC.G
DC.R
DC.YS
S0
S1
S2
S3
S4
S5
S6
S7
RES
D+5V
BHD
BVD
GHD
GVD
RHD
RVD
WCLK
BCLK
TO SHEET_9
DC Analog
DIG.B
DIG.G
DIG.R
DIG.Ys
BT
GT
RT
YS
H.BLK
V.BLK
GND1

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

DIG. CONVERGENCE (DIGITAL)

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

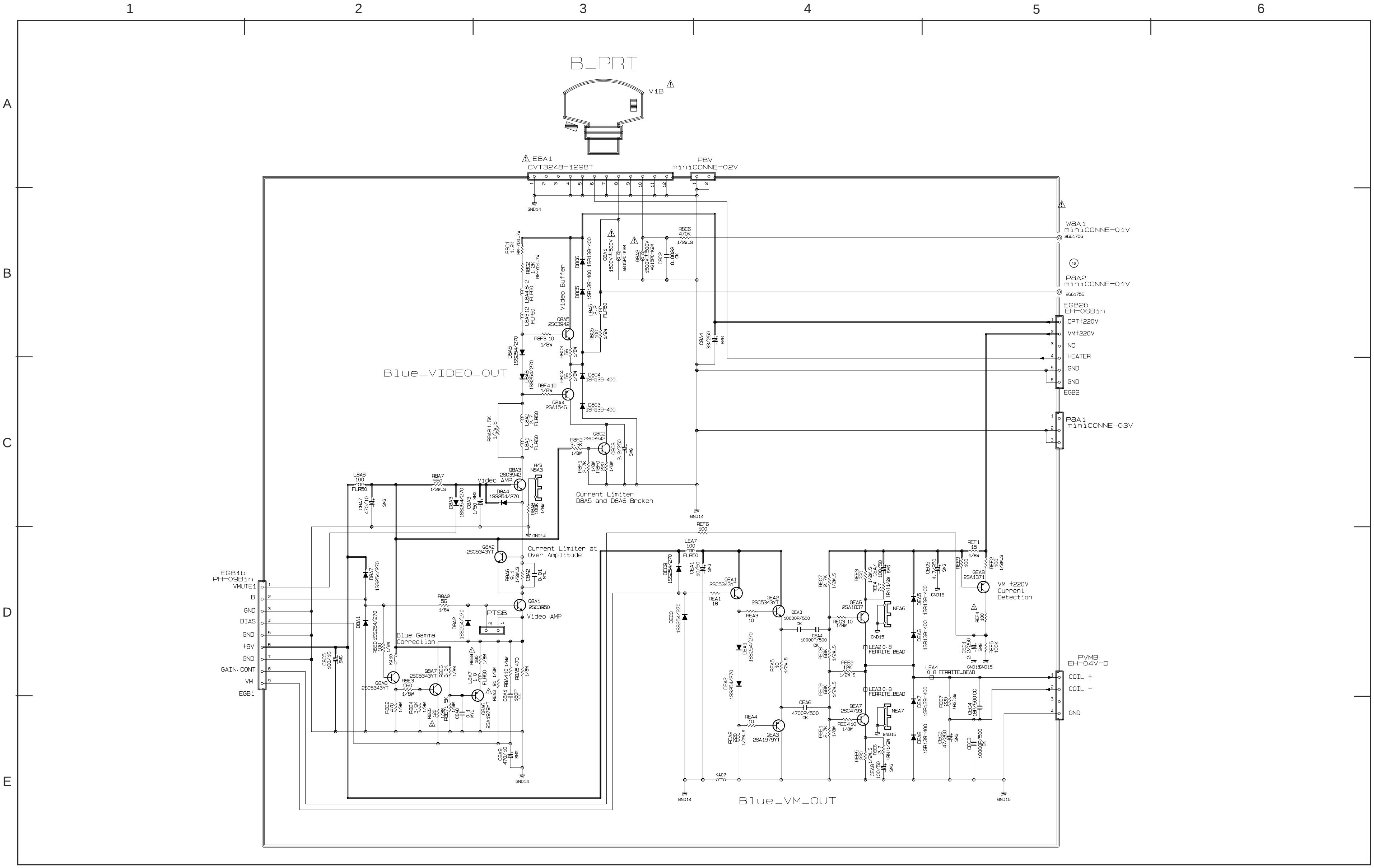

1
2
3
4
5
6
A
B
C
D
E
TO SHEET_7 D/C I/F
-5.0V
+5.0V
RT62
RT61
TO SHEET_8 D/C Digital
RES
DH5V
RHD
GHD
BHD
RVD
GVD
BVD
BCLK
WCLK
1SS254/270
DT01
IT01
CD0031BM
D/A
LPF
IT02
NJM4565V
IT03
NJM4565V
IT04
NJM4565V
Differential Amplifer
IT05
NJM4565V
IT06
NJM4565V
IT07
NJM4565V
BH
BV
GH
GV
RH
RV
GND1
GND2
TO SHEET_7 D/C I/F
MUTE
BH
BV
GH
GV
RH
RV

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

DIG. CONVERGENCE (ANALOG)

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

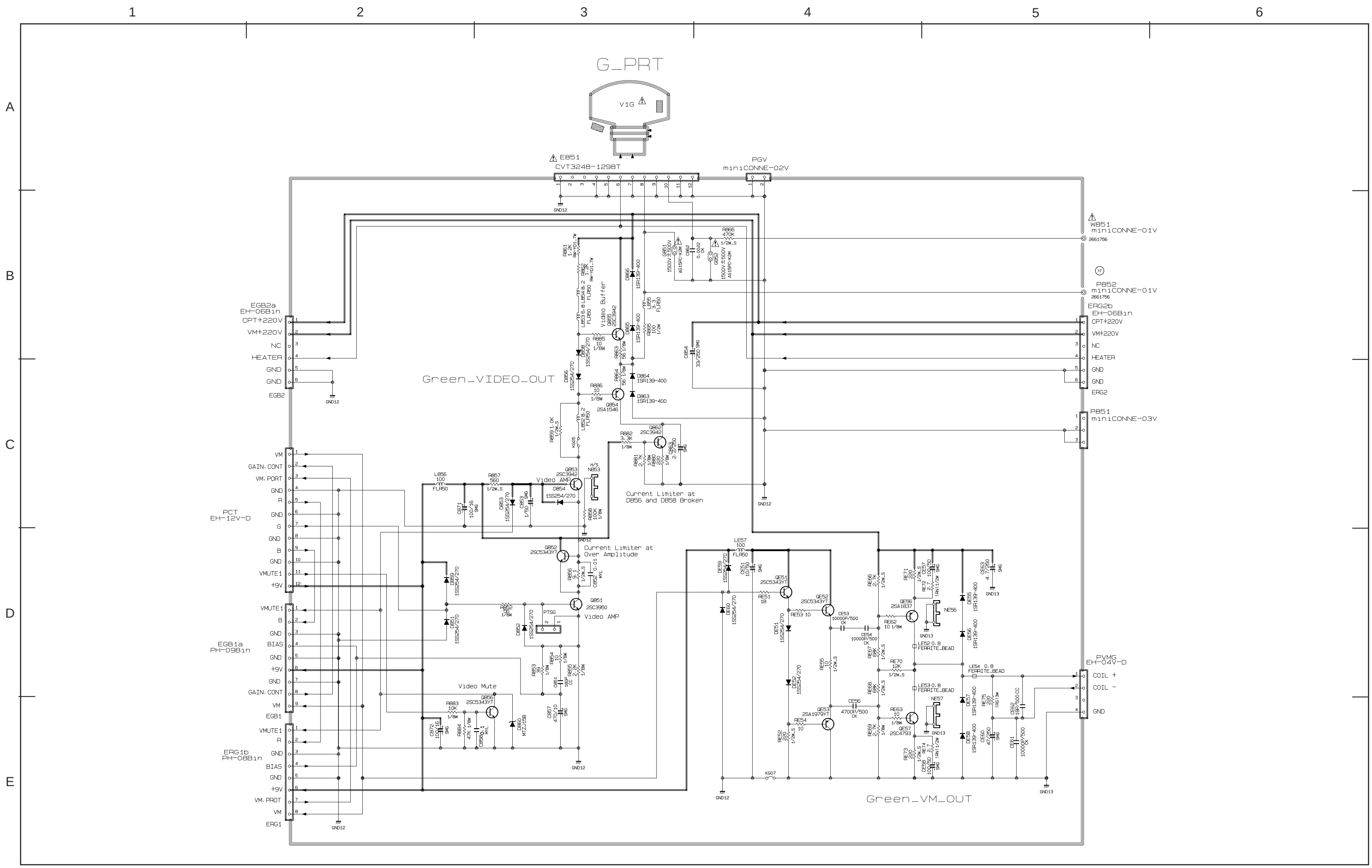

1
2
3
4
5
6
A
B
C
D
E
B_PRT
V1B
EBA1
CVT3248-1298T
PBV
miniCONNE-02V
GND14
WBA1
miniCONNE-01V
PBA2
miniCONNE-01V
EGB2b
EH-06Bin
CPT+220V
VM+220V
NC
HEATER
GND
GND
EGB2
PBA1
miniCONNE-03V
Blue_VIDEO_OUT
Video Buffer
QBA5
2SC3942
QBA4
2SA1546
QBC2
2SC3942
Current Limiter
DBA5 and DBA6 Broken
QBA3
2SC3942
Video AMP
H/S
NBA3
QBA2
2SC5343YT
Current Limiter at
Over Amplitude
QBA1
2SC3950
Video AMP
PTSB
Blue Gamma
Correction
QBA8
2SC5343YT
QBA7
2SC5343YT
QBA6
2SA1979YT
EGB1b
PH-09Bin
VMUTE1
B
GND
BIAS
GND
+9V
GND
GAIN CONT
VM
EGB1
Blue_VM_OUT
QEA1
2SC5343YT
QEA2
2SC5343YT
QEA3
2SA1979YT
QEA6
2SA1837
NEA6
QEA7
2SC4793
NEA7
QEA8
2SA1371
VM +220V
Current
Detection
LEA2 0.8
FERRITE_BEAD
LEA3 0.8
FERRITE_BEAD
LEA4
0.8 FERRITE_BEAD
PVMB
EH-04V-D
COIL +
COIL −
GND
KA07
GND15

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

BLUE

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

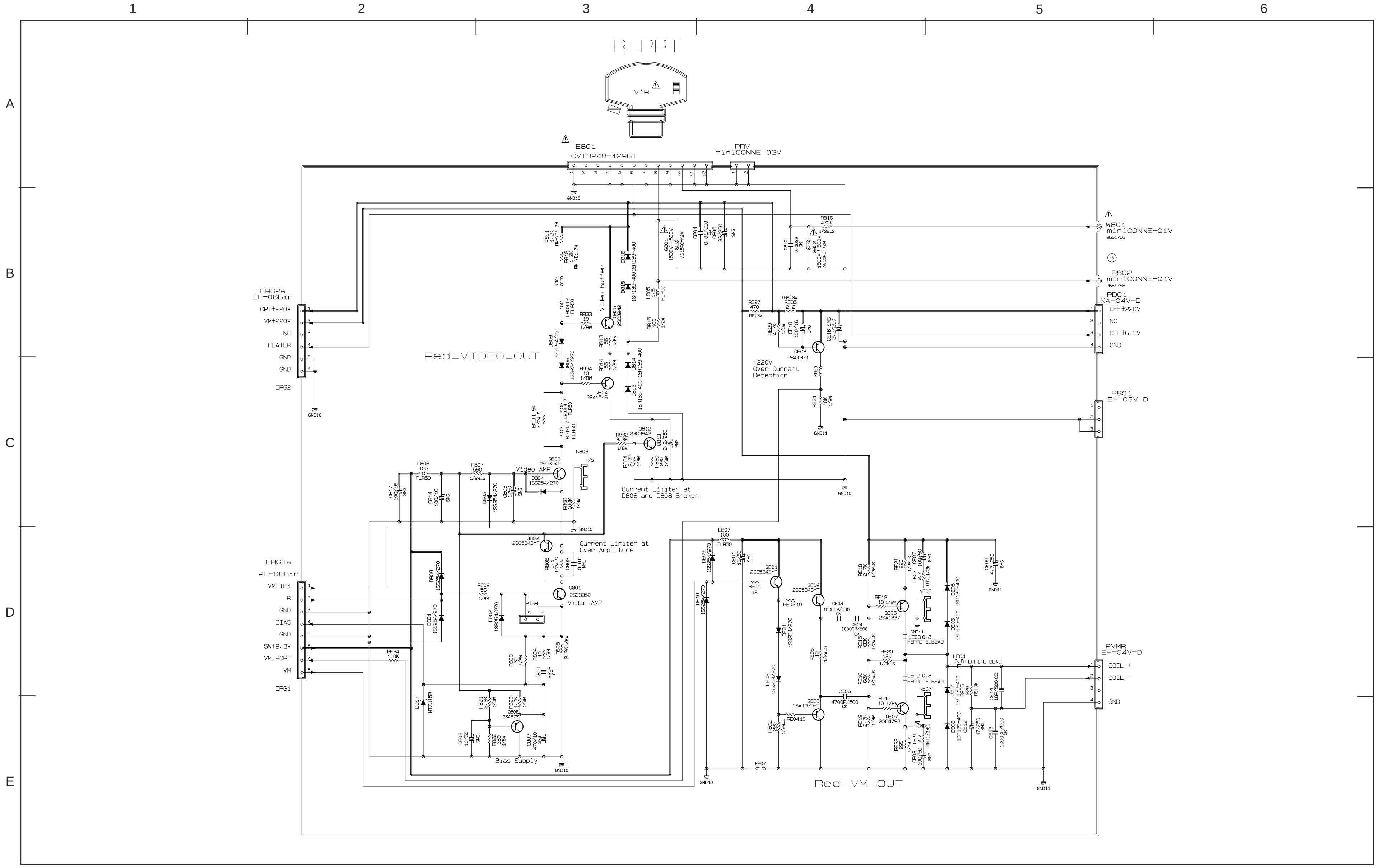

1
2
3
4
5
6
A
B
C
D
E
G_PRT
V1G ⚠
⚠ E851
CVT3248-1298T
PGV
miniCONNE-02V
GND12
⚠ W851
miniCONNE-01V
P852
miniCONNE-01V
ERG2b
EH-06Bin
CPT+220V
VM+220V
NC
HEATER
GND
GND
ERG2
P851
miniCONNE-03V
EGB2a
EH-06Bin
CPT+220V
VM+220V
NC
HEATER
GND
GND
EGB2
R866
470K
1/2W.S
Video Buffer
Q855
2SC3942
Q854
2SA1546
D864
1SR139-400
D863
1SR139-400
Green_VIDEO_OUT
Q862
2SC3942
Current Limiter at D856 and D858 Broken
PCT
EH-12V-D
VM
GAIN.CONT
VM.PORT
GND
R
GND
G
GND
B
GND
VMUTE1
+9V
L856
100
FLR50
R857
560
1/2W.S
Q853
2SC3942
Video AMP
D854
1SS254/270
N853
Q852
2SC5343YT
Current Limiter at Over Amplitude
Q851
2SC3950
Video AMP
PTSG
EGB1a
PH-09Bin
VMUTE1
B
GND
BIAS
GND
+9V
GND
GAIN.CONT
VM
EGB1
Video Mute
Q856
2SC5343YT
ERG1b
PH-08Bin
VMUTE1
R
GND
BIAS
GND
+9V
VM.PROT
VM
ERG1
GND12
LE57
100
FLR50
QE51
2SC5343YT
QE52
2SC5343YT
QE53
2SA1979YT
QE56
2SA1837
QE57
2SC4793
NE56
NE57
LE52 0.8 FERRITE_BEAD
LE53 0.8 FERRITE_BEAD
LE54 0.8 FERRITE_BEAD
PVMG
EH-04V-D
COIL +
COIL -
GND
KG07
GND13
Green_VM_OUT

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

GREEN

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

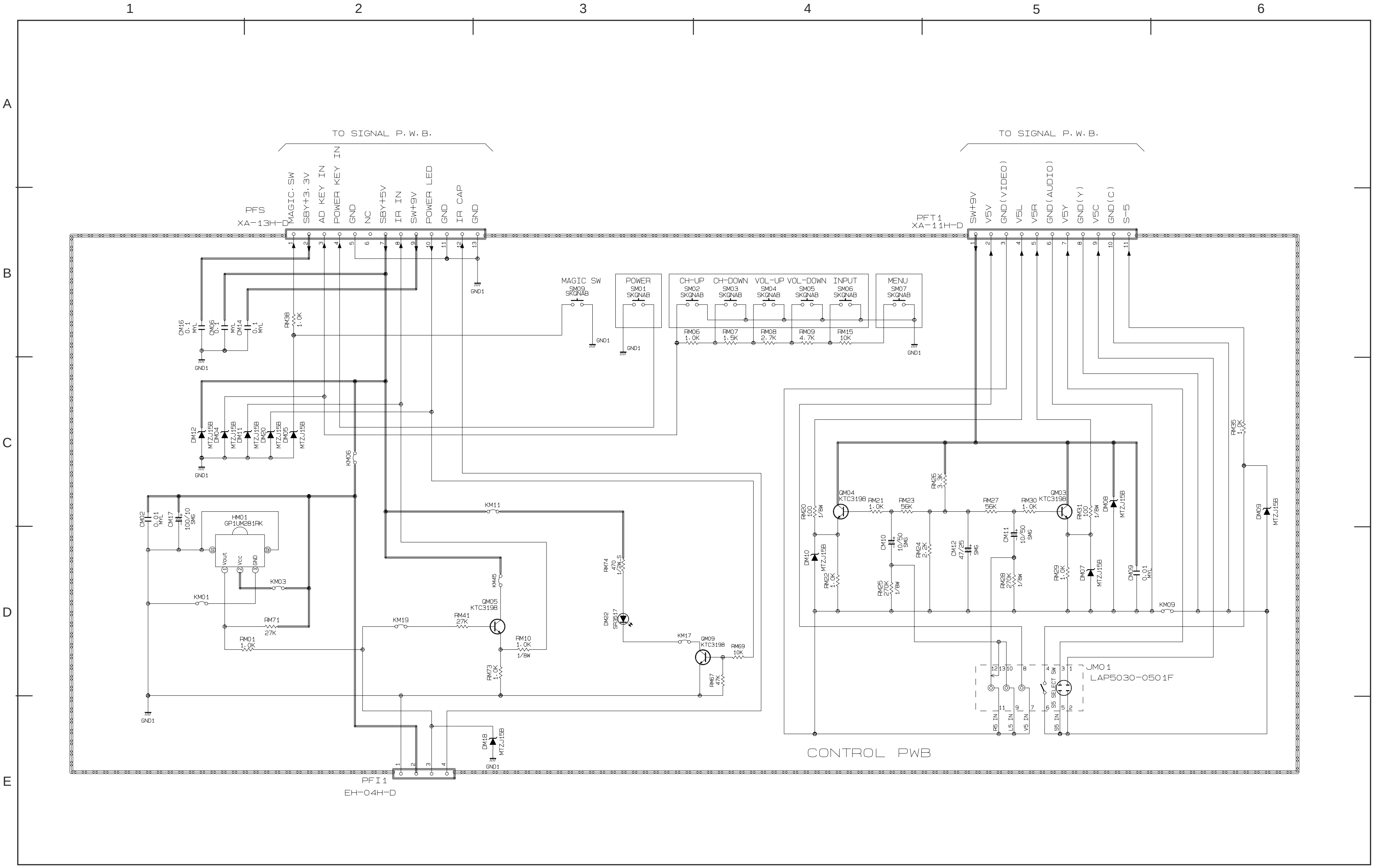

1
2
3
4
5
6
A
B
C
D
E
R_PRT
V1R
E801
CVT3248-1298T
PRV
miniCONNE-02V
GND10
W801
miniCONNE-01V
P802
miniCONNE-01V
PDC1
XA-04V-D
DEF+220V
NC
DEF+6.3V
GND
P801
EH-03V-D
ERG2a
EH-06Bin
CPT+220V
VM+220V
NC
HEATER
GND
GND
ERG2
Red_VIDEO_OUT
Video Buffer
Q805
2SC3942
Q804
2SA1546
Q812
2SC3942
Current Limiter at D806 and D808 Broken
Q803
2SC3942
Video AMP
Q802
2SC5343YT
Current Limiter at Over Amplitude
Q801
2SC3950
Video AMP
PTSR
Q806
2SA673
Bias Supply
ERG1a
PH-08Bin
VMUTE1
R
GND
BIAS
GND
SW+9.3V
VM.PORT
VM
ERG1
RE34
1.0K
D817
MTZJ15B
+220V
Over Current
Detection
QE08
2SA1371
RE27
470
RE35
2.2
RB16
470K
GND11
LE07
100
FLR50
QE01
2SC5343YT
QE02
2SC5343YT
QE03
2SA1979YT
QE06
2SA1837
QE07
2SC4793
NE06
NE07
LE03 0.8
FERRITE_BEAD
LE02 0.8
FERRITE_BEAD
LE04
0.8 FERRITE_BEAD
PVMR
EH-04V-D
COIL +
COIL −
GND
KR07
Red_VM_OUT

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

RED

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

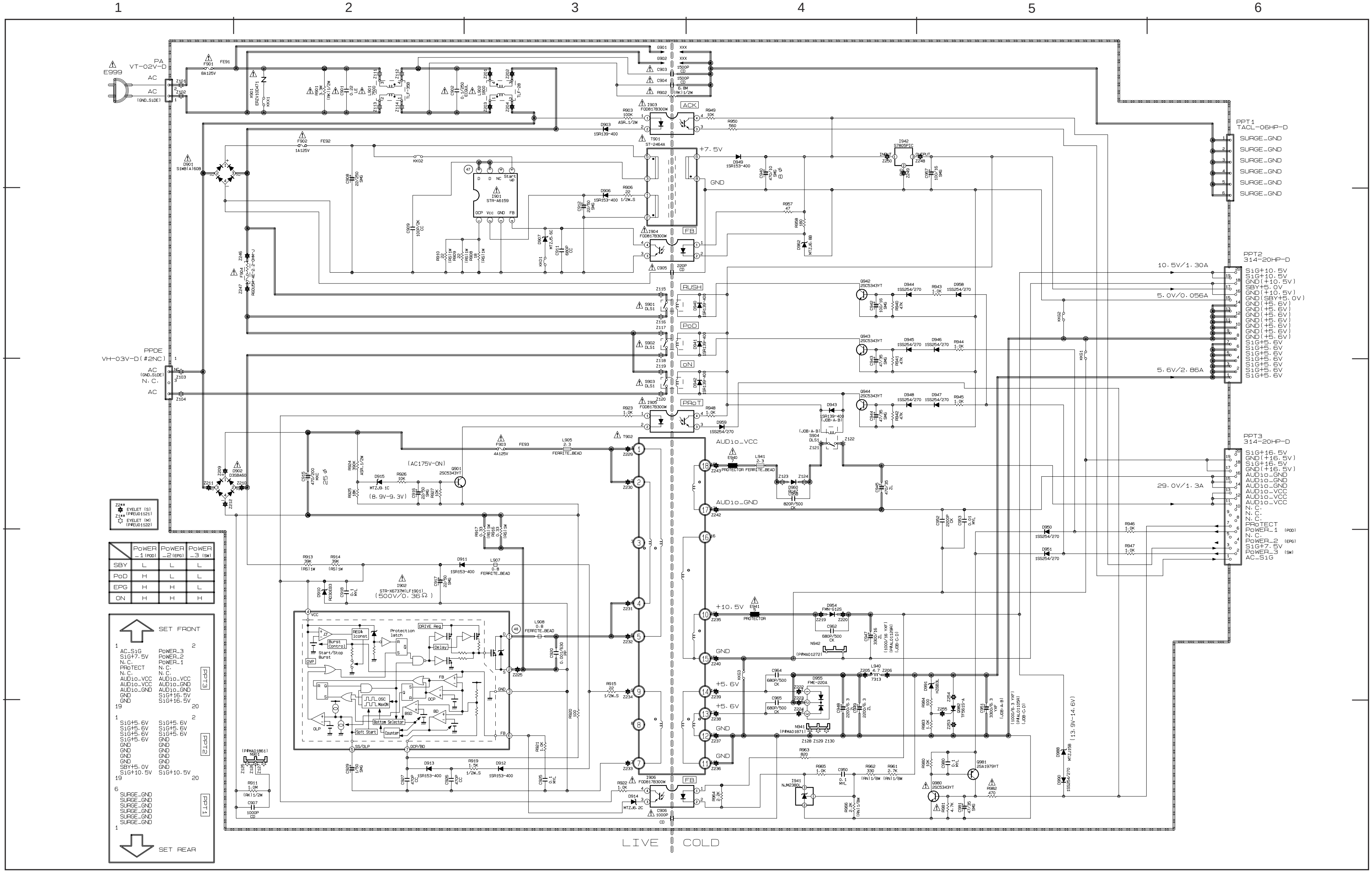

1
2
3
4
5
6
A
B
C
D
E
TO SIGNAL P.W.B.
PFS
XA-13H-D
MAGIC.SW
SBY+3.3V
AD KEY IN
POWER KEY IN
GND
NC
SBY+5V
IR IN
SW+9V
POWER LED
GND
IR CAP
GND
GND1
TO SIGNAL P.W.B.
PFT1
XA-11H-D
SW+9V
V5V
GND(VIDEO)
V5L
V5R
GND(AUDIO)
V5Y
GND(Y)
V5C
GND(C)
S-5
MAGIC SW
SM09
SKQNAB
POWER
SM01
SKQNAB
CH-UP
SM02
SKQNAB
CH-DOWN
SM03
SKQNAB
VOL-UP
SM04
SKQNAB
VOL-DOWN
SM05
SKQNAB
INPUT
SM06
SKQNAB
MENU
SM07
SKQNAB
RM06 1.0K
RM07 1.5K
RM08 2.7K
RM09 4.7K
RM15 10K
CM16 0.1 MYL
CM06 0.1 MYL
CM14 0.1 MYL
RM38 1.0K
DM12 MTZJ15B
DM04 MTZJ15B
DM11 MTZJ15B
DM20 MTZJ15B
DM05 MTZJ15B
KM06
CM02 0.01 MYL
CM17 100/10 SMG
HM01
GP1UM281RK
Vout
Vcc
GND
KM03
KM01
RM71 27K
RM01 1.0K
KM11
KM45
QM05
KTC3198
RM41 27K
KM19
RM10 1.0K 1/8W
RM73 1.0K
RM74 470 1/2W-S
DM22 SPR-54MVWF
KM17
QM09
KTC3198
RM69 10K
RM67 47K
DM18 MTZJ15B
PFI1
EH-04H-D
RM35 1.0K
RM26 3.3K
QM04 KTC3198
RM21 1.0K
RM23 56K
RM27 56K
RM30 1.0K
QM03 KTC3198
RM20 100 1/8W
RM31 100 1/8W
DM08 MTZJ15B
DM09 MTZJ15B
DM10 MTZJ15B
RM22 1.0K
CM10 10/50 SMG
RM25 270K 1/8W
RM24 2.2K
CM12 47/25 SMG
CM11 10/50 SMG
RM28 270K 1/8W
RM29 1.0K
DM07 MTZJ15B
CM09 0.01 MYL
KM09
JM01
LAP5030-0501F
S5 SELECT SW
R5 IN
L5 IN
V5 IN
S5 IN
CONTROL PWB

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

CONTROL

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
E999
PA
VT-02V-D
AC
AC
(GND_SiDE)
F901
8A125V
FE91
F902
1A125V
FE92
D901
S1WB(A)60B
PPDE
VH-03V-D(#2NC)
AC
(GND_SiDE)
N.C.
AC
I901
STR-A6159
T901
ST-2464A
I903
FOD817B300W
ACK
I904
FB
RUSH
PoD
oN
PRoT
I905
T902
I902
STR-X6737M(LF1901)
(500V/0.36Ω)
(AC175V-ON)
(8.9V-9.3V)
Q901
2SC5343YT
F903
4A125V
FE93
L905
FERRITE_BEAD
AUDio_VCC
AUDio_GND
+10.5V
GND
+5.6V
+5.6V
GND
GND
+7.5V
GND
I942
S7805PIC
PPT1
TACL-06HP-D
SURGE_GND
SURGE_GND
SURGE_GND
SURGE_GND
SURGE_GND
SURGE_GND
PPT2
314-20HP-D
10.5V/1.30A
5.0V/0.056A
5.6V/2.86A
SiG+10.5V
SiG+10.5V
GND(+10.5V)
SBY+5.0V
GND(+10.5V)
GND(SBY+5.0V)
GND(+5.6V)
GND(+5.6V)
GND(+5.6V)
GND(+5.6V)
GND(+5.6V)
GND(+5.6V)
SiG+5.6V
SiG+5.6V
SiG+5.6V
SiG+5.6V
SiG+5.6V
SiG+5.6V
PPT3
314-20HP-D
29.0V/1.3A
SiG+16.5V
GND(+16.5V)
SiG+16.5V
GND(+16.5V)
AUDio_GND
AUDio_GND
AUDio_GND
AUDio_VCC
AUDio_VCC
N.C.
N.C.
N.C.
PRoTECT
POWER_1 (POD)
N.C.
POWER_2 (EPG)
SiG+7.5V
POWER_3 (SW)
AC_SiG
VCC
Burst Control
Start/Stop Burst
OVP
REG& Iconst
Protection latch
DRIVE Reg
Delay
OSC MaxON
Soft Start
Counter
Bottom Selector
OLP
OCP
SS/OLP
OCP/BD
FB
GND
LIVE
COLD
Z2**
EYELET (S)
(P#EU01121)
Z1**
EYELET (M)
(P#EU01122)

	PoWER _1 (POD)	PoWER _2 (EPG)	PoWER _3 (SW)
SBY	L	L	L
PoD	H	L	L
EPG	H	H	L
ON	H	H	H

SET FRONT

PPT3

1	2
AC_SiG	PoWER_3
SiG+7.5V	PoWER_2
N.C.	PoWER_1
PRoTECT	N.C.
N.C.	N.C.
AUDio_VCC	AUDio_VCC
AUDio_VCC	AUDio_GND
AUDio_GND	AUDio_GND
GND	SiG+16.5V
GND	SiG+16.5V
19	20

PPT2

1	2
SiG+5.6V	SiG+5.6V
SiG+5.6V	SiG+5.6V
SiG+5.6V	SiG+5.6V
SiG+5.6V	GND
GND	GND
GND	GND
GND	GND
GND	GND
SBY+5.0V	GND
SiG+10.5V	SiG+10.5V
19	20

PPT1

6
SURGE_GND
SURGE_GND
SURGE_GND
SURGE_GND
SURGE_GND
SURGE_GND
1

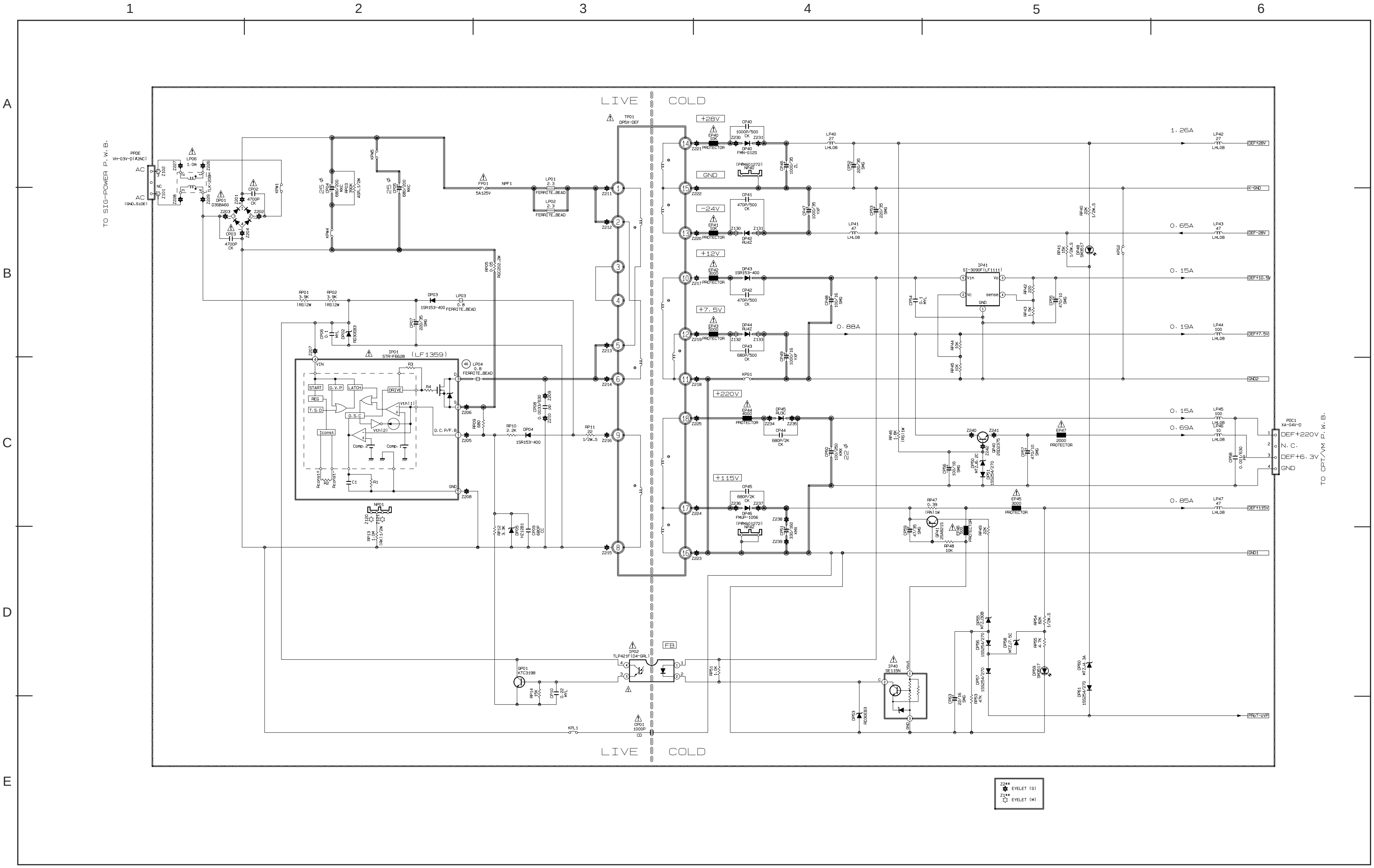
SET REAR

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

POWER

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

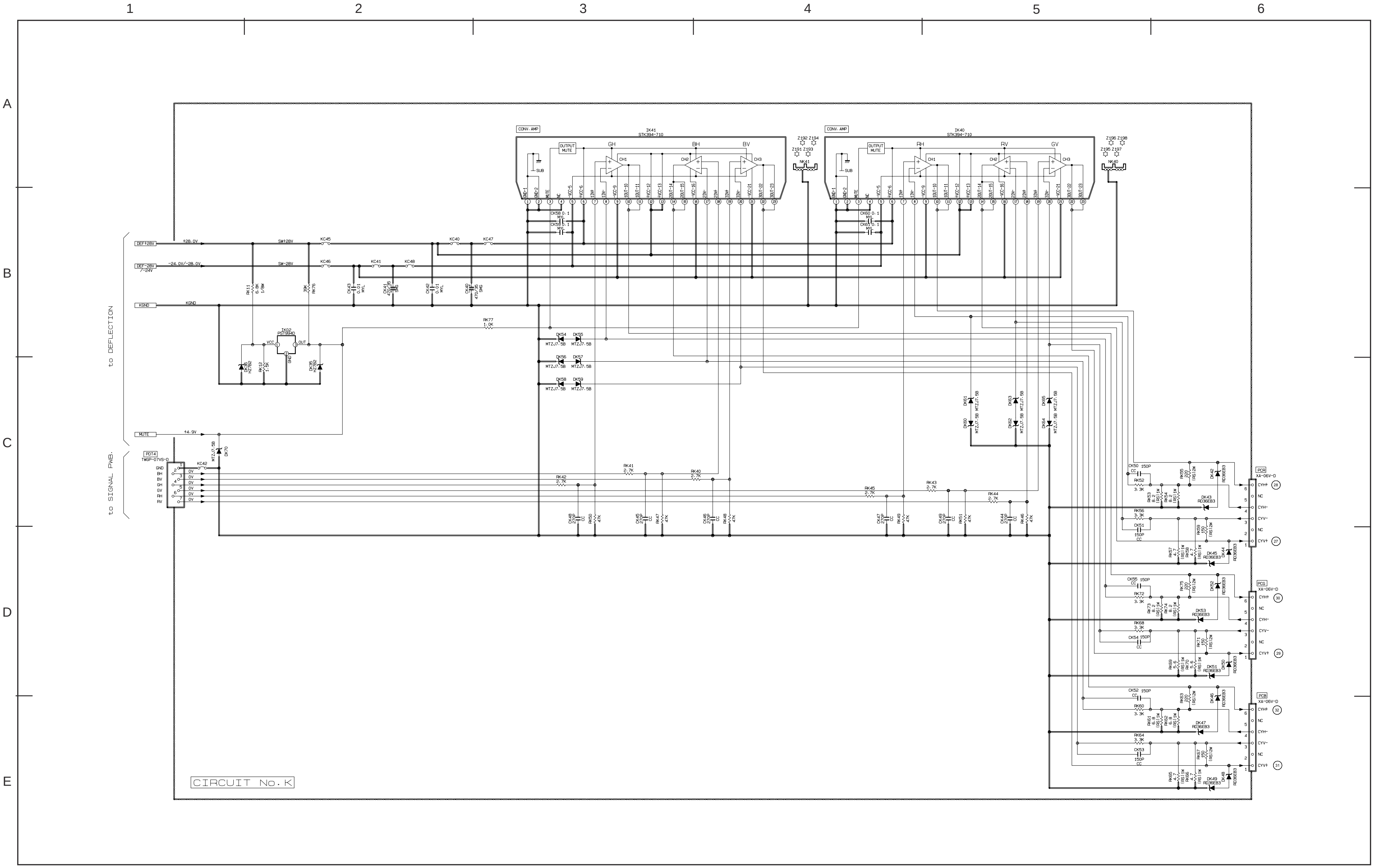

1
2
3
4
5
6
A
B
C
D
E
LIVE
COLD
TO SIG-POWER P. W. B.
PPDE
VH-03V-D(#2NC)
AC
NC
AC
(GND_SIDE)
Z102
Z101
Z227
Z228
LP06
1.0m
TLK-20BH
Z226
Z229
DP01
D3SBA60
Z201
Z202
Z203
Z204
CP02
4700P
CK
CP03
4700P
CK
KPW1
25 φ
CP04
680/200
MXC
RP03
390K
ASR_1/2W
KPW5
KPW4
CP05
680/200
MXC
FP01
5A125V
NPF1
LP01
2.3
FERRITE_BEAD
LP02
2.3
FERRITE_BEAD
RP05
0.05
RGC202_2W
RP01
3.9K
(RS)2W
RP02
3.9K
(RS)2W
DP03
1SR153-400
LP03
0.8
FERRITE_BEAD
CP07
220/35
SMG
CP06
0.1
MYL
DP02
RD30EB3
Z207
IP01
STR-F6628
(LF1359)
VIN
START
O.V.P
LATCH
DRIVE
REG
T.S.D
O.S.C
Vth(1)
Vth(2)
Iconst
Comp.2
Comp.1
Rconst+
Rconst-
R1
R2
R3
R4
C1
D
S
O.C.P/F.B
GND
Z205
Z206
Z208
46
LP04
0.8
FERRITE_BEAD
CP08
0.0033/630
PP
Z209
Z210
RP09
680
RP10
2.2K
DP04
1SR153-400
RP11
22
1/2W_S
NP01
Z120
Z121
RP13
1.0M
(RK)1/2W
RP12
3.3K
DP05
HZ12B1
CP09
680P
CC
TP01
DP5X-DEF
Z211
Z212
Z213
Z214
Z215
Z216
+28V
EP40
10K
PROTECTOR
Z221
Z230
Z231
CP40
1000P/500
CK
DP40
FMN-G12S
(P#MA01272)
NP40
CP46
1000/35
ZL
LP40
27
LHL08
CP52
220/35
SMG
GND
Z222
-24V
EP41
10K
PROTECTOR
Z220
Z130
Z131
CP41
470P/500
CK
DP42
RU4Z
CP47
1000/35
YXF
LP41
47
LHL08
CP53
220/35
SMG
+12V
EP42
3000
PROTECTOR
Z217
DP43
1SR153-400
CP42
470P/500
CK
CP48
100/16
SMG
+7.5V
EP43
5000
PROTECTOR
Z219
Z132
Z133
DP44
RU4Z
CP43
680P/500
CK
CP49
1000/16
YXF
0.88A
Z218
KPG1
+220V
EP44
4000
PROTECTOR
Z225
Z234
Z235
DP45
RU3C
CP44
680P/2K
CK
CP50
100/250
KMX
22 φ
+115V
CP45
680P/2K
CK
Z224
Z236
Z237
DP46
FMUP-1056
(P#MA01272)
NP42
Z238
Z239
CP51
330/160
KMX
Z223
IP41
SI-3090F(LF1111)
Vin
Vo
Vc
sense
GND
CP54
0.1
MYL
RP42
220
RP43
1.5K
CP55
470/10
SMG
RP44
10K
RP45
10K
RP46
1.8K
(RS)1W
Z240
Z241
Z242
QP40
2SD2375
DP50
MTZJ6.2C
DP51
1SS254/270
CP56
100/16
SMG
CP57
470/10
SMG
EP47
2000
PROTECTOR
RP47
0.39
(RN)1W
CP59
47/35
SMG
QP41
2SA821S
EP46
500
PROTECTOR
RP48
10K
RP49
22K
EP45
3000
PROTECTOR
RP40
22K
1/2W_S
RP41
15K
1/2W_S
DP48
SM3517
KPG2
1.26A
LP42
27
LHL08
DEF+28V
K-GND
0.65A
LP43
47
LHL08
DEF-28V
0.15A
DEF+10.5V
0.19A
LP44
100
LHL08
DEF+7.5V
GND2
0.15A
LP45
100
LHL08
0.69A
LP46
10
LHL08
CP58
0.001/630
PP
PDC1
XA-04V-D
DEF+220V
N.C.
DEF+6.3V
GND
TO CPT/VM P. W. B.
0.85A
LP47
47
LHL08
DEF+115V
GND1
IP02
TLP421F(D4-GRL)
FB
QP01
KTC3198
RP14
15K
CP10
0.22
MYL
RP51
1.0K
KPL1
CP01
1000P
CD
IP40
SE115N
Vout
GND
DP53
RD30EB3
CP63
22/16
SMG
RP53
47K
DP55
MTZJ30B
DP56
1SS254/270
DP57
1SS254/270
DP58
MTZJ7.5C
RP54
82K
1/2W_S
RP55
4.7K
DP59
SM3517
DP60
MTZJ4.3A
DP61
1SS254/270
PROT-OVP
Z2**
EYELET (S)
Z1**
EYELET (M)

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

DEF POWER

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
to DEFLECTION
to SIGNAL PWB.
DEF+28V
+28.0V
SW+28V
DEF-28V
/-24V
-24.0V/-28.0V
SW-28V
KGND
MUTE
+4.9V
KC45
KC40
KC47
KC46
KC41
KC48
KC42
RK11 6.8K 1/8W
39K RK76
CK43 0.01 MYL
CK41 470/35 SMG
CK42 0.01 MYL
CK40 470/35 SMG
IK02 PST994D
VCC
OUT
GND
DK36 HZ7B2
RK12 1.5K
DK35 HZ7B2
RK77 1.0K
DK54 DK55 MTZJ7.5B MTZJ7.5B
DK56 DK57 MTZJ7.5B MTZJ7.5B
DK58 DK59 MTZJ7.5B MTZJ7.5B
DK70 MTZJ7.5B
PDT4
TWGP-07VS-D
GND
BH
BV
GH
GV
RH
RV
0V
CONV. AMP
IK41
STK394-710
OUTPUT MUTE
GH
BH
BV
CH1
CH2
CH3
SUB
GND-1
GND-2
MUTE
NC
-VCC-5
+VCC-6
1IN+
1IN-
-VCC-9
1OUT-10
1OUT-11
+VCC-12
+VCC-13
2OUT-14
2OUT-15
-VCC-16
2IN-
2IN+
3IN+
3IN-
-VCC-21
3OUT-22
3OUT-23
CK58 0.1 MYL
CK59 0.1 MYL
Z192 Z194
Z191 Z193
NK41
CONV. AMP
IK40
STK394-710
RH
RV
GV
CK60 0.1 MYL
CK61 0.1 MYL
Z196 Z198
Z195 Z197
NK40
DK61 MTZJ7.5B
DK60 MTZJ7.5B
DK63 MTZJ7.5B
DK62 MTZJ7.5B
DK65 MTZJ7.5B
DK64 MTZJ7.5B
RK42 2.7K
RK41 2.7K
RK40 2.7K
RK45 2.7K
RK43 2.7K
RK44 2.7K
CK48 270P CC
RK50 47K
CK45 270P CC
RK47 47K
CK46 270P CC
RK48 47K
CK47 270P CC
RK49 47K
CK49 270P CC
RK51 47K
CK44 270P CC
RK46 47K
CK50 150P CC
RK52 3.3K
RK53 8.2 (RS)1W
RK54 8.2 (RS)1W
RK55 220 (RS)2W
DK42 RD36EB3
DK43 RD36EB3
RK56 3.3K
CK51 150P CC
RK59 150 (RS)2W
RK57 4.7 (RS)1W
RK58 4.7 (RS)1W
DK45 RD36EB3
DK44 RD36EB3
PCR
XA-06V-D
CYH+
NC
CYH-
CYV-
NC
CYV+
28
27
CK55 150P CC
RK72 3.3K
RK73 8.2 (RS)1W
RK74 8.2 (RS)1W
RK75 220 (RS)2W
DK52 RD36EB3
DK53 RD36EB3
RK68 3.3K
CK54 150P CC
RK71 150 (RS)2W
RK69 5.6 (RS)1W
RK70 5.6 (RS)1W
DK51 RD36EB3
DK50 RD36EB3
PCG
XA-06V-D
30
29
CK52 150P CC
RK60 3.3K
RK61 6.8 (RS)1W
RK62 6.8 (RS)1W
RK63 220 (RS)2W
DK46 RD36EB3
DK47 RD36EB3
RK64 3.3K
CK53 150P CC
RK67 150 (RS)2W
RK65 4.7 (RS)1W
RK66 4.7 (RS)1W
DK49 RD36EB3
DK48 RD36EB3
PCB
XA-06V-D
32
31
CIRCUIT No.K

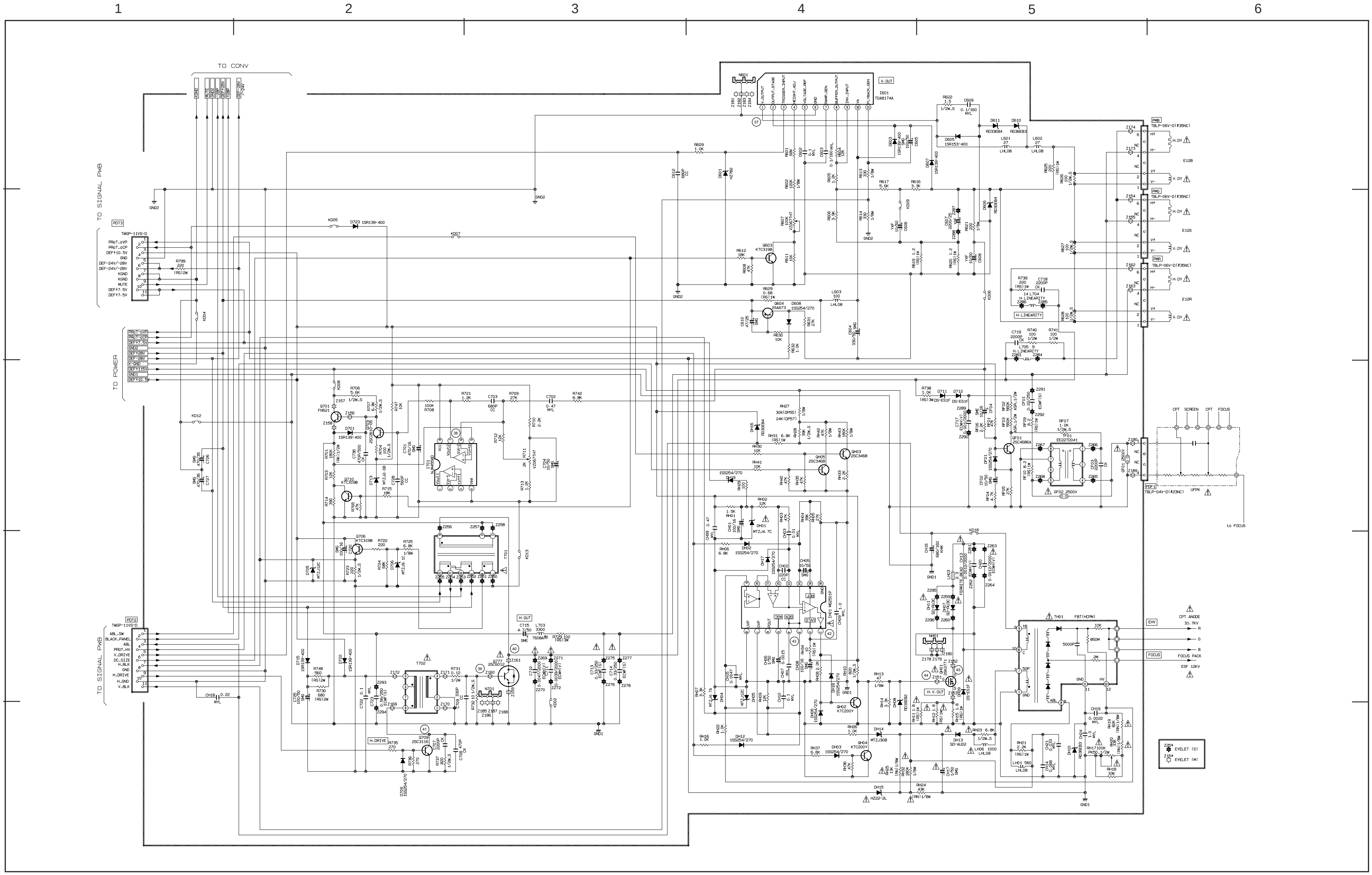
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

CONVER OUT

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

DP55 □
DEFLECTION 3 OF 3



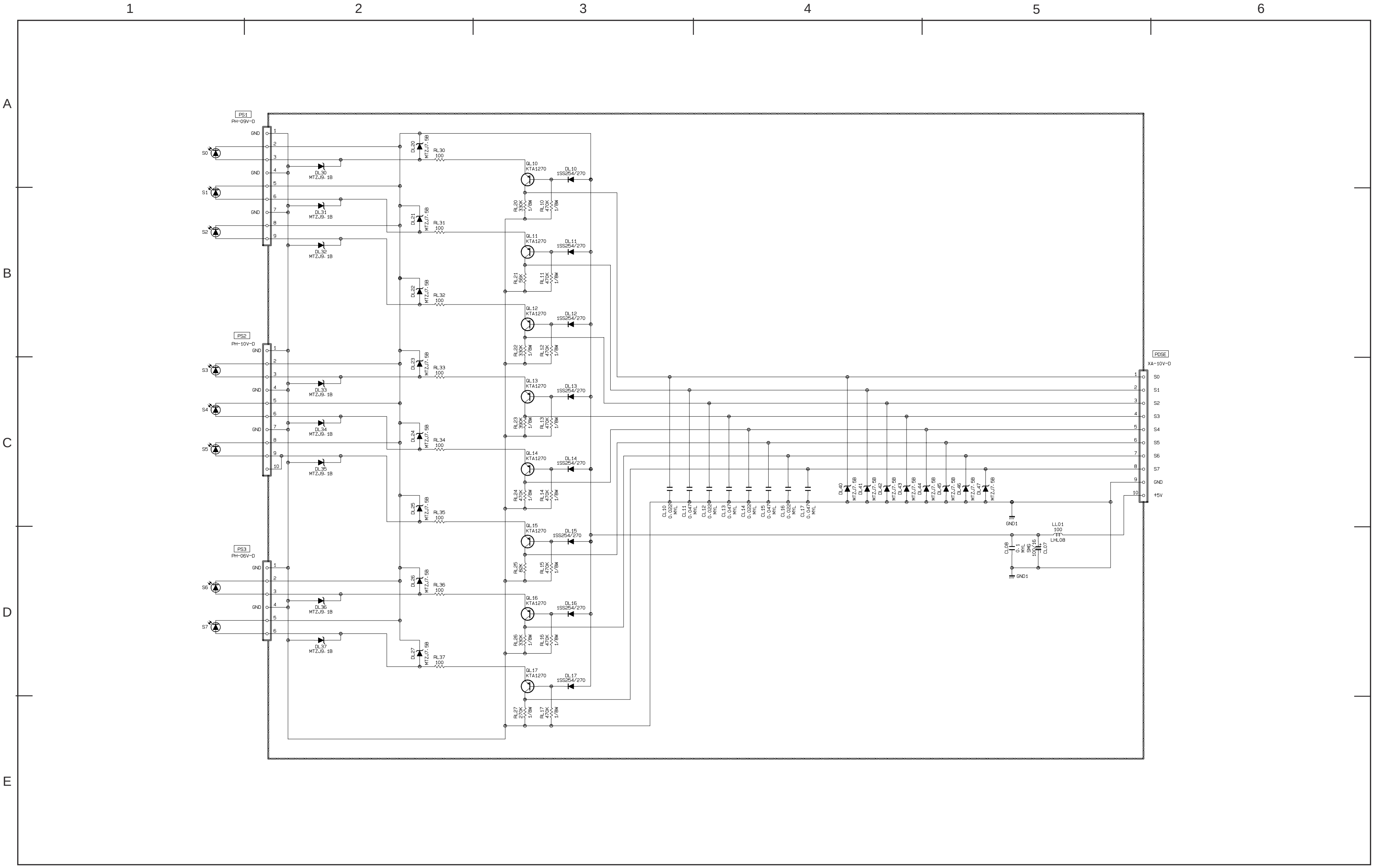
1
2
3
4
5
6
A
B
C
D
E
TO CONV
TO SIGNAL PWB
TO POWER
TWGP-11VS-D
V.OUT
TDA8174A
H.LINEARITY
H.OUT
H.DRIVE
H.V.OUT
H.DY
V.DY
E12B
E12G
E12R
TBLP-06V-D(#35NC)
CPT SCREEN
CPT FOCUS
to FOCUS
UFPK
FBT(HCPM)
EHV
CPT ANODE
31.7kV
FOCUS
FOCUS PACK
ESF 12kV
EYELET (S)
EYELET (M)
GND1
GND2

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

DEFLECTION

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

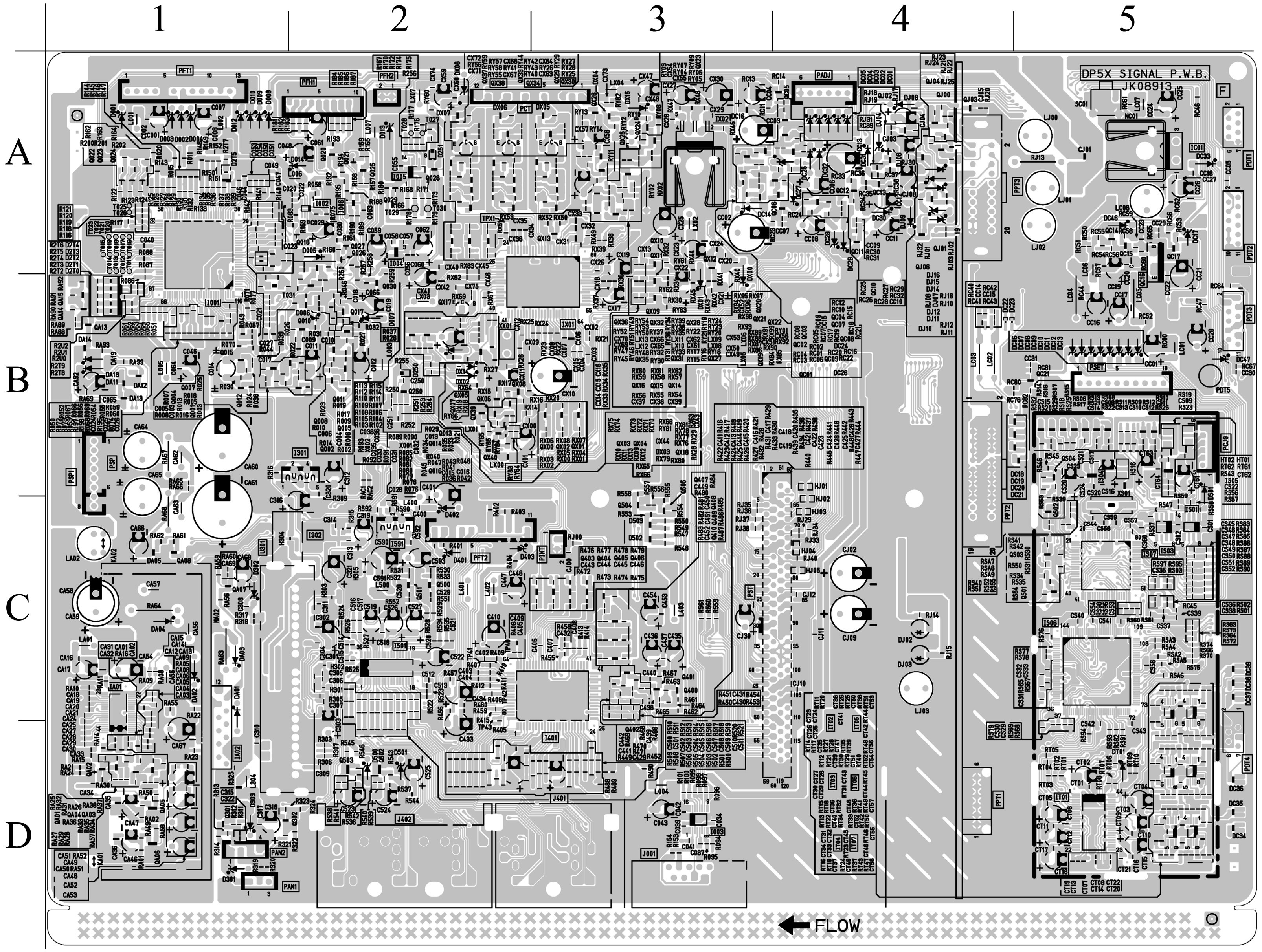

1
2
3
4
5
6
A
B
C
D
E
PS1
PH-09V-D
PS2
PH-10V-D
PS3
PH-06V-D
GND
S0
S1
S2
S3
S4
S5
S6
S7
DL30 MTZJ9.1B
DL31 MTZJ9.1B
DL32 MTZJ9.1B
DL33 MTZJ9.1B
DL34 MTZJ9.1B
DL35 MTZJ9.1B
DL36 MTZJ9.1B
DL37 MTZJ9.1B
DL20 MTZJ7.5B
DL21 MTZJ7.5B
DL22 MTZJ7.5B
DL23 MTZJ7.5B
DL24 MTZJ7.5B
DL25 MTZJ7.5B
DL26 MTZJ7.5B
DL27 MTZJ7.5B
RL30 100
RL31 100
RL32 100
RL33 100
RL34 100
RL35 100
RL36 100
RL37 100
QL10 KTA1270
QL11 KTA1270
QL12 KTA1270
QL13 KTA1270
QL14 KTA1270
QL15 KTA1270
QL16 KTA1270
QL17 KTA1270
DL10 1SS254/270
DL11 1SS254/270
DL12 1SS254/270
DL13 1SS254/270
DL14 1SS254/270
DL15 1SS254/270
DL16 1SS254/270
DL17 1SS254/270
RL20 330K 1/8W
RL21 56K
RL22 330K 1/8W
RL23 390K 1/8W
RL24 470K 1/8W
RL25 82K
RL26 330K 1/8W
RL27 270K 1/8W
RL10 470K 1/8W
RL11 470K 1/8W
RL12 470K 1/8W
RL13 470K 1/8W
RL14 470K 1/8W
RL15 470K 1/8W
RL16 470K 1/8W
RL17 470K 1/8W
CL10 0.022 MYL
CL11 0.047 MYL
CL12 0.022 MYL
CL13 0.047 MYL
CL14 0.022 MYL
CL15 0.047 MYL
CL16 0.022 MYL
CL17 0.047 MYL
DL40 MTZJ7.5B
DL41 MTZJ7.5B
DL42 MTZJ7.5B
DL43 MTZJ7.5B
DL44 MTZJ7.5B
DL45 MTZJ7.5B
DL46 MTZJ7.5B
DL47 MTZJ7.5B
GND1
LL01 100 LHL08
CL08 0.1 MYL
CL07 100/16 SMG
PDSE
XA-10V-D
+5V

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

SENSOR

PRINTED CIRCUIT BOARDS

DP55 SIGNAL PWB (Component side)



DP55 SIGNAL PWB SEMICONDUCTOR LOCATION
(Component side)

IC	
I001	A-1
I002	A-2
I003	D-3
I004	A-2
I005	A-2
I006	A-2
I301	B-2
I302	C-2
I401	C-3
I501	C-2
I591	C-2
IA01	C-1
IA02	D-1
IC01	A-5
IS01	C-5
IS03	C-5
IS04	B-5
IS05	B-5
IS06	C-5
IS07	C-5
IT01	D-5
IT02	C-5
IT03	D-5
IT04	D-5
IT05	C-5
IT06	D-5
IT07	D-5
IX01	B-3
IX02	A-3
TRANSISTOR	
Q001	B-2
Q002	B-2
Q004	B-1
Q005	B-2
Q007	B-2
Q008	B-2
Q010	B-2
Q011	B-2
Q012	B-1
Q013	A-2
Q014	B-2
Q015	B-1
Q016	B-2
Q017	B-2
Q018	A-2
Q020	A-2
Q021	A-2
Q022	A-1
Q023	A-1
Q024	A-1
Q025	A-2
Q026	A-2
Q027	A-2
Q028	A-2
Q029	A-2
Q030	B-2
Q250	B-2
Q301	D-1
Q302	D-1
Q400	C-3
Q401	C-3
Q402	C-3
Q403	C-3
Q404	C-3
Q405	C-3
Q406	C-3
Q407	C-3
Q408	C-3
Q409	C-3
Q410	C-3
Q500	C-2
Q501	C-2
Q502	D-2
Q503	D-2
Q504	C-3
Q505	C-3
QA01	D-1
QA02	D-1
QA03	D-1
QA04	D-1
QA05	D-1
QA06	D-1
QA07	C-1
QA08	C-1
QA13	B-1
QA14	B-1
QA15	B-1
QC01	A-3
QC02	A-3
QC03	A-3
QC04	A-4
QC05	A-4
QC06	A-4
QC07	A-4
QC08	A-4
QC09	A-4
QC10	A-4
QC11	A-4
QC12	A-4
QC13	A-4
QC14	A-5
QC15	A-5
QC16	A-5
QC17	A-5
QC21	B-5
QJ00	A-4
QJ01	A-4
QJ02	A-4
QJ03	A-4
QJ04	A-4
QJ06	A-4
QS01	C-5
QS02	C-5
QS03	C-5
QS04	B-5
QX00	B-3
QX01	B-3
QX02	B-3
QX03	B-2
QX04	B-2
QX05	B-2
QX06	B-2
QX07	B-2
QX08	B-2
QX09	B-3
QX10	B-3
QX11	A-3
QX12	A-3
QX13	A-3
QX14	A-2
QX15	A-2
QX16	A-2
QX17	B-2
QX18	B-2
QX19	A-3
QX20	A-3
QX21	A-3
QX22	A-3
QX23	A-3
QX24	A-3
QX25	A-3
QX26	A-3
QX27	A-3
QX28	A-3
QX29	A-3
QX30	A-3
QX31	A-2
QX32	A-2
QX33	A-2
QX34	A-2
QX35	A-2
QX36	A-2
QX37	A-2
QX38	A-2
QX39	B-2
QX40	B-2
DIODE	
D001	A-1
D002	A-1
D003	A-1
D004	A-1
D005	A-2
D006	B-2
D007	B-2
D008	A-1
D009	A-1
D010	A-1
D012	A-1
D013	A-2
D014	A-2
D250	B-2
D251	A-2
D2T0	B-1
D2T1	B-1
D2T2	B-1
D2T3	B-1
D2T4	B-1
D2T5	A-1
D301	D-1
D302	C-1
D303	D-1
D401	C-2
D402	C-2
D403	C-2
D500	D-2
D501	D-2
D502	C-3
D503	C-3
DA01	D-1
DA02	C-1
DA03	C-1
DA04	C-1
DA05	C-1
DA11	B-1
DA12	B-1
DA13	B-1
DA14	B-1
DA18	B-1
DA19	B-1
DC01	A-4
DC02	A-4
DC03	A-4
DC04	A-4
DC05	A-4
DC06	B-5
DC07	B-5
DC08	B-5
DC09	B-5
DC10	B-5
DC11	B-5
DC12	B-5
DC13	B-5
DC14	A-3
DC15	A-3
DC16	A-3
DC17	A-5
DC18	B-4
DC19	B-4
DC20	B-4
DC21	B-5
DC22	B-4
DC23	B-4
DC24	A-4
DC25	A-4
DC26	A-4
DC27	A-4
DC28	A-4
DC29	A-4
DC30	A-4
DC31	A-4
DC32	A-4
DC33	A-5
DC34	D-5
DC35	D-5
DC36	D-5
DC37	C-5
DC38	C-5
DC39	C-5
DC46	A-5
DC47	B-5
DJ02	C-4
DJ03	C-4
DJ04	A-4
DJ06	A-4
DJ07	A-4
DJ08	A-4
DJ09	A-4
DJ10	A-4
DJ11	A-4
DJ12	A-4
DJ14	A-4
DJ15	A-4
DJ16	A-4
DS01	C-5
DT01	D-5
DX00	A-3
DX01	A-3
DX02	B-2
DX03	B-2
DX04	A-3
DX05	A-3
DX06	A-2
DX07	A-2
DX08	A-2
DX14	B-2
DX15	A-3
D2T3	B-1
D2T4	B-1
D2T5	A-1
D301	D-1
D302	C-1
CRYSTAL & FILTER	
X001	B-1
X002	A-1
XS01	C-5
XX01	B-2

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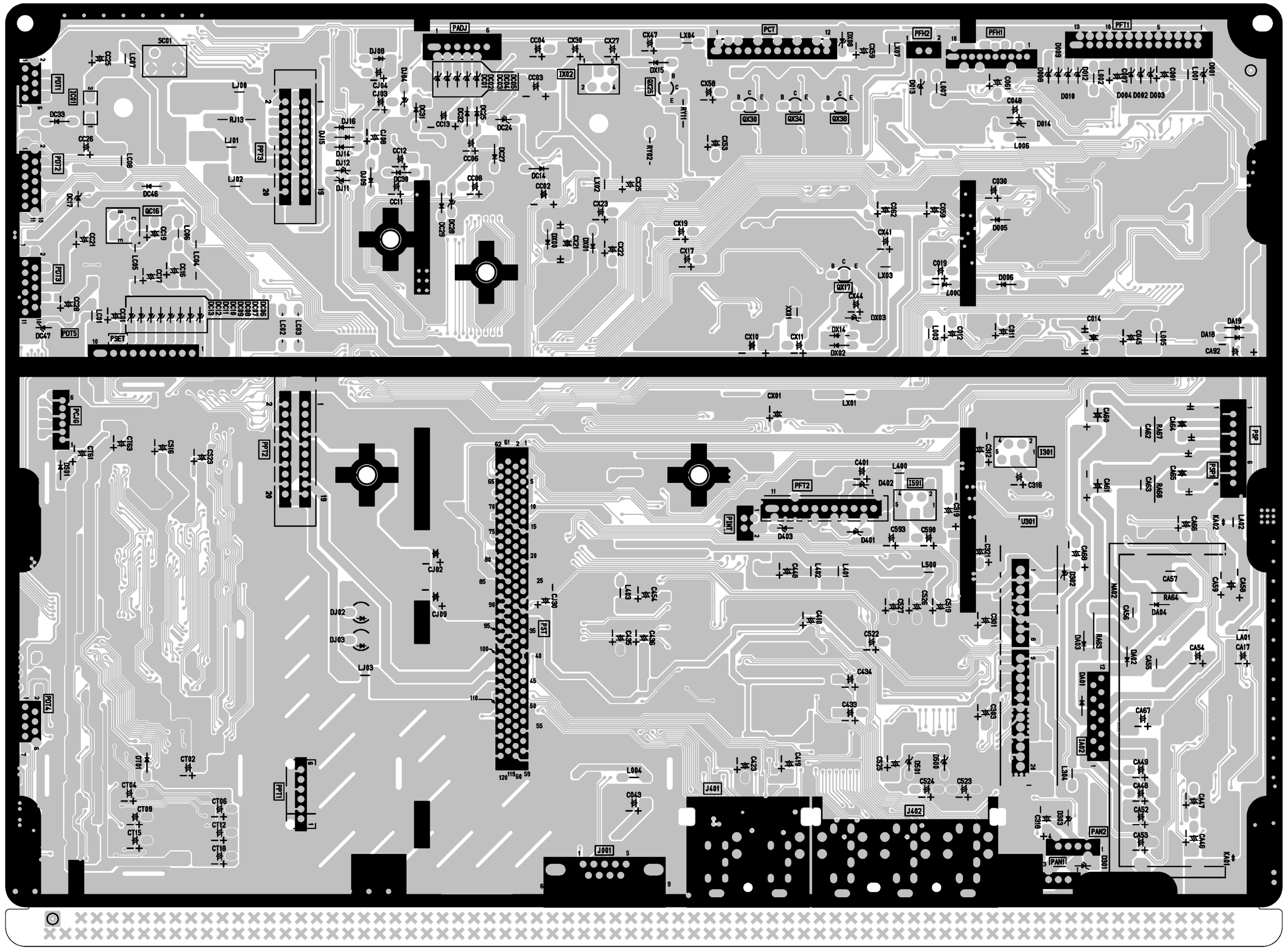
PRINTED CIRCUIT BOARDS

DP55 SIGNAL PWB (Solder side)



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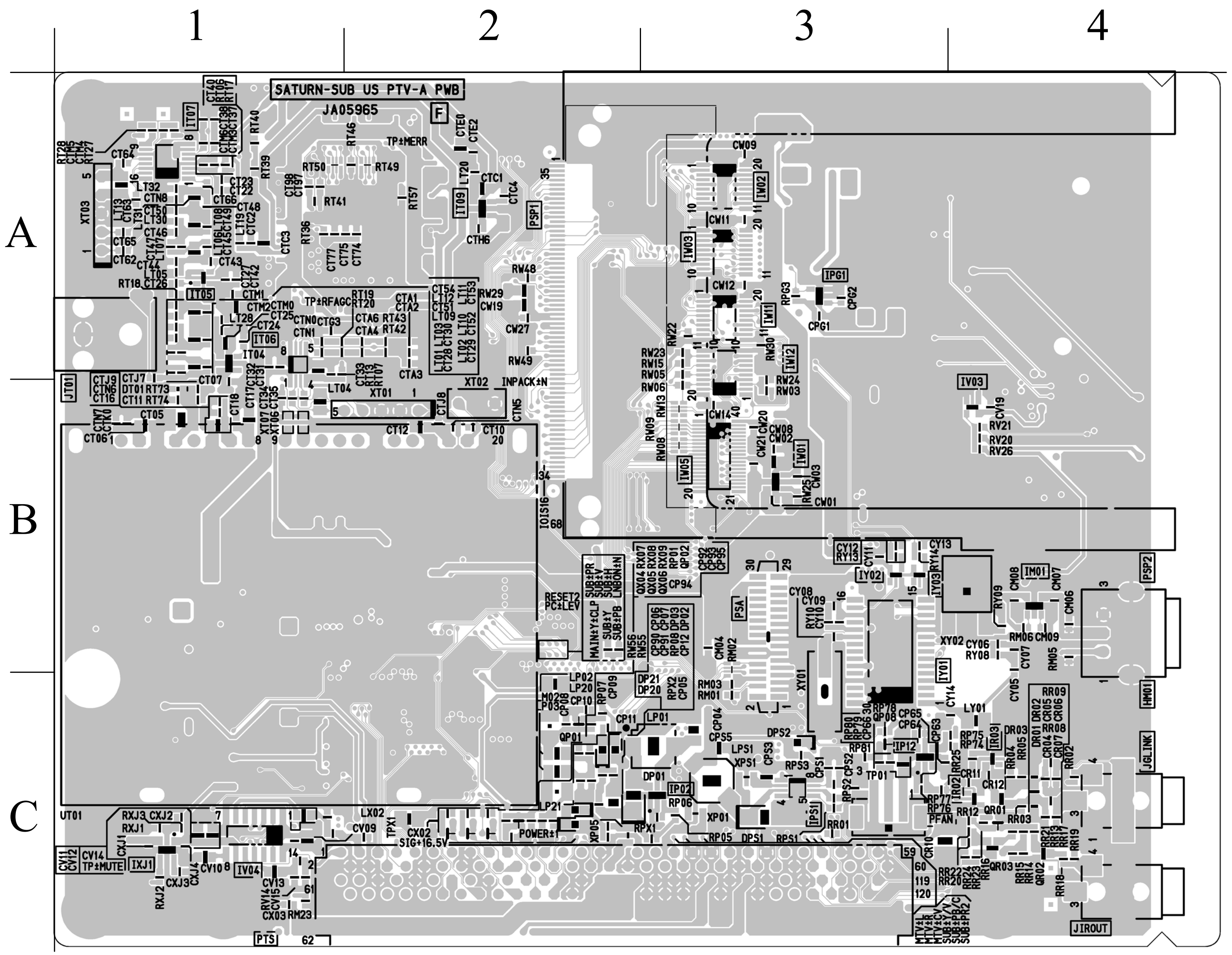
PRINTED CIRCUIT BOARDS

DP55 SUBDIGITAL PWB (Component side)



DP55 SUBDIGITAL PWB SEMICONDUCTOR LOCATION
(Component side)

IC	
IM01	B-4
IP02	C-3
IP12	C-3
IPG1	A-3
IPS1	C-3
IR02	C-4
IR03	C-4
IT04	A-1
IT05	A-1
IT06	A-1
IT07	A-1
IT09	A-2
IV03	B-4
IV04	C-1
IW01	B-3
IW02	A-3
IW03	A-3
IW05	B-3
IW11	A-3
IW12	A-3
IXJ1	C-1
IY01	B-3
IY02	B-3
IY03	B-3

TRANSISTOR	
QP01	C-2
QP02	C-2
QP08	C-3
QR01	C-4
QR02	C-4
QR03	C-4
QX04	C-2
QX05	C-2
QX06	C-2

DIODE	
DP01	C-2
DP02	C-2
DP03	C-2
DP20	C-2
DP21	C-2
DPS1	C-3
DPS2	C-3
DR01	C-4
DR02	C-4
DR03	C-4
DT01	B-1

CRYSTAL & FILTER	
XP01	C-3
XP05	C-2
XPS1	C-3
XT01	B-2
XT02	B-2
XT03	A-1
XT06	B-1
XT07	B-1
XY01	C-3
XY02	B-4

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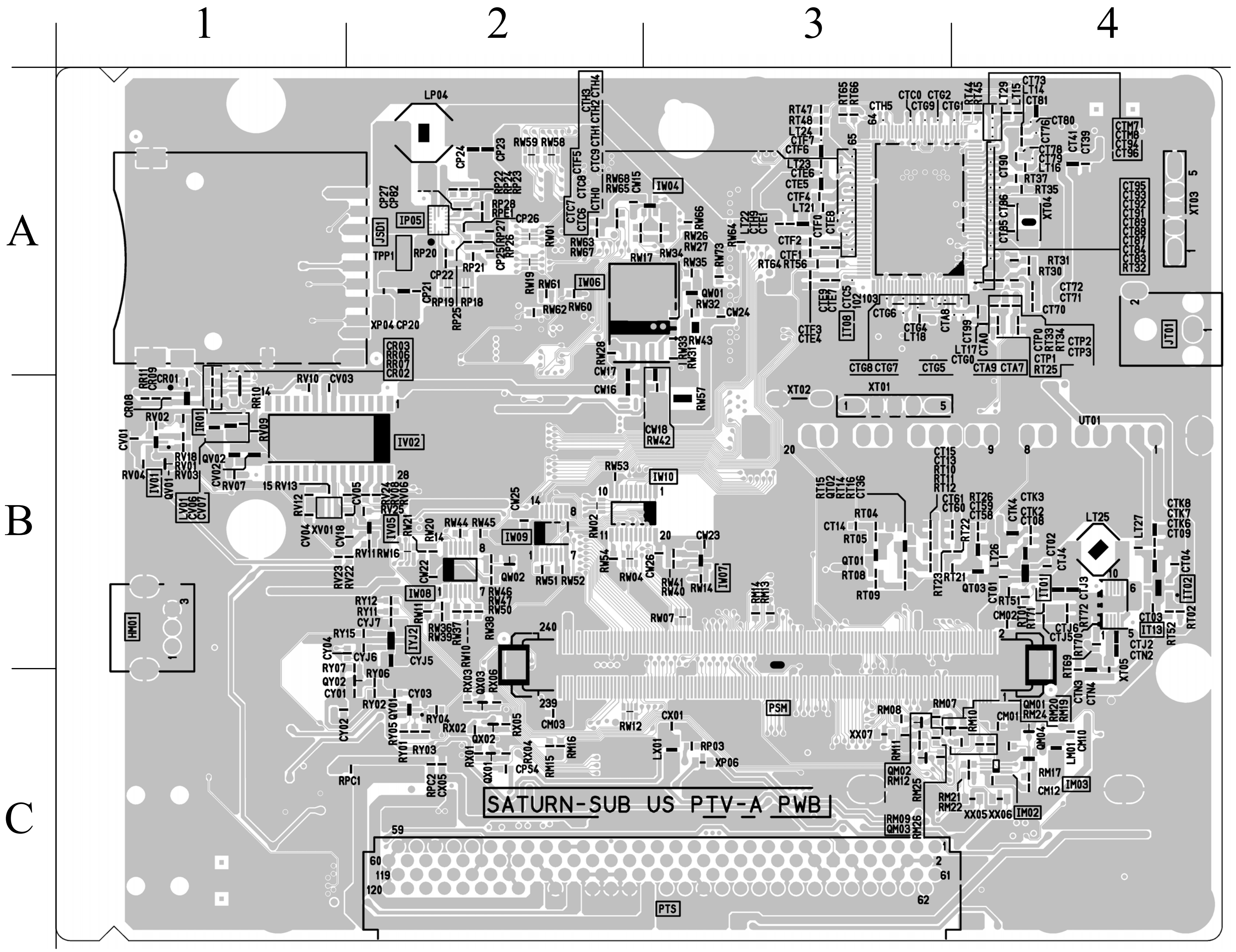
DP55 SUBDIGITAL PWB (Solder side)


1
2
3
4
A
B
C
SATURN-SUB US PTV-A PWB
LP04
XT01
UT01
XT02
JT01
IM01
IV02
IM02
IM03
PSM
PTS
59
60
119
120
2
61
62
240
239

DP55 SUBDIGITAL PWB SEMICONDUCTOR LOCATION
(Solder side)

IC	
IM02	C-4
IM03	C-4
IP05	A-2
IR01	B-1
IT01	B-4
IT02	B-4
IT08	A-3
IT13	B-4
IV01	B-1
IV02	B-1
IV05	B-2
IW04	A-3
IW06	A-3
IW07	B-3
IW08	B-2
IW09	B-2
IW10	B-2
IYJ2	B-2

TRANSISTOR	
QM01	C-4
QM02	C-3
QM03	C-3
QM04	C-4
QT01	B-3
QT02	B-3
QT03	B-4
QV01	B-1
QV02	B-1
QW01	A-3
QW02	B-2
QX01	C-2
QX02	C-2
QX03	C-2
QY01	C-2
QY02	C-2

CRYSTAL & FILTER	
XP04	A-2
XP06	C-3
XT04	A-4
XT05	B-4
XV01	B-1
XX05	C-4
XX06	C-4
XX07	C-3

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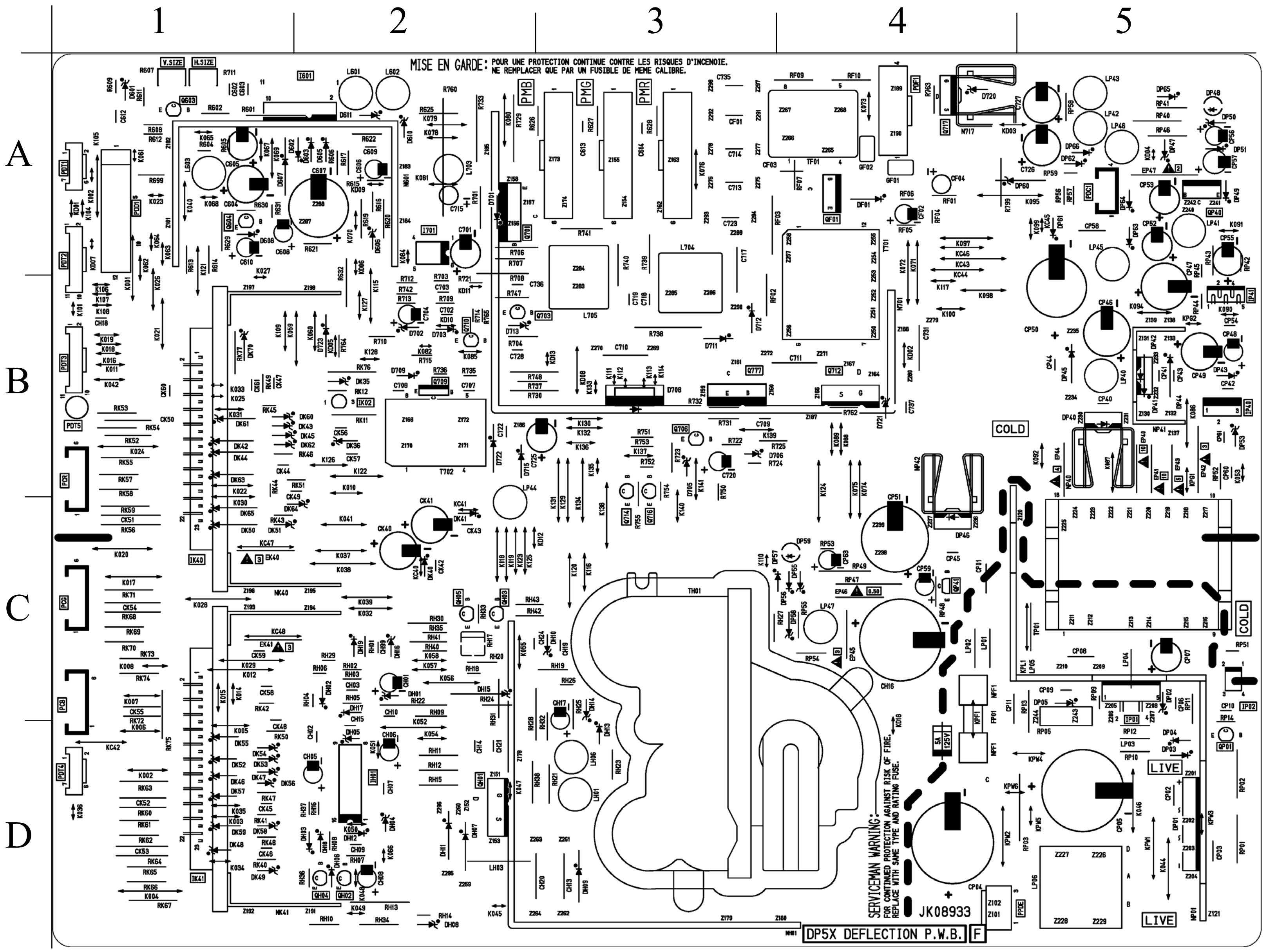
PRINTED CIRCUIT BOARDS

DP55 DEFLECTION PWB (Component side)


1
2
3
4
5
A
B
C
D
MISE EN GARDE: POUR UNE PROTECTION CONTINUE CONTRE LES RISQUES D'INCENOIE. NE REMPLACER QUE PAR UN FUSIBLE DE MEME CALIBRE.
PMB
PMG
PMR
COLD
LIVE
SERVICEMAN WARNING: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATING FUSE.
JK08933
DP5X DEFLECTION P.W.B.
F

DP55 DEFLECTION PWB SEMICONDUCTOR LOCATION
(Component side)

IC	
I601	A-2
I701	A-2
IH01	D-2
IK02	B-2
IK40	B-1
IK41	D-1
IP01	C-5
IP02	C-5
IP40	B-5
IP41	B-5

TRANSISTOR	
Q603	A-1
Q604	A-1
Q701	A-2
Q703	B-2
Q706	B-3
Q709	B-2
Q710	B-2
Q712	B-4
Q714	B-3
Q716	B-3
Q717	A-4
Q777	B-3
QF01	A-4
QH01	D-2
QH02	D-2
QH03	C-2
QH04	D-2
QH05	C-2
QP01	D-5
QP40	A-5
QP41	C-4

DIODE	
D601	A-1
D602	A-2
D603	A-2
D605	A-2
D606	A-2
D607	A-1
D608	A-1
D610	A-2
D611	A-2
D701	A-2
D702	B-2
D703	B-2
D705	B-3
D706	B-3
D708	B-3
D709	B-2
D711	B-3
D712	B-3
D713	B-2
D715	B-2
D720	A-4
D721	B-4
D722	B-2
D723	B-2
DF01	A-4
DH01	C-2
DH02	C-2
DH03	D-2
DH04	D-2
DH05	D-2
DH06	D-2
DH07	D-2
DH08	D-2
DH09	D-3
DH10	C-3
DH11	D-2
DH12	D-2
DH13	D-3
DH14	C-3
DH15	C-2
DH16	C-2
DH17	C-2
DH18	D-2
DH19	C-2
DK35	B-2
DK36	B-2
DK40	C-2
DK41	C-2
DK42	B-1
DK43	B-1
DK44	B-1
DK45	B-1
DK46	D-1
DK47	D-1
DK48	D-1
DK49	D-1
DK50	C-1
DK51	C-1
DK52	D-1
DK53	D-1
DK54	D-1
DK55	D-1
DK56	D-1
DK57	D-1
DK58	D-1
DK59	D-1
DK60	B-1
DK61	B-1
DK62	B-1
DK63	B-1
DK64	C-1
DK65	C-1
DK70	B-1
DP01	D-5
DP02	C-5
DP03	D-5
DP04	D-5
DP05	C-5
DP40	B-5
DP41	B-5
DP42	B-5
DP43	B-5
DP44	B-5
DP45	B-5
DP46	C-4
DP47	A-5
DP48	A-5
DP49	A-5
DP50	A-5
DP51	A-5
DP53	B-5
DP55	C-4
DP56	C-4
DP57	C-3
DP58	C-4
DP59	C-4
DP60	A-5
DP61	A-5
DP62	A-5
DP63	A-5
DP64	A-5
DP65	A-5
DP66	A-5

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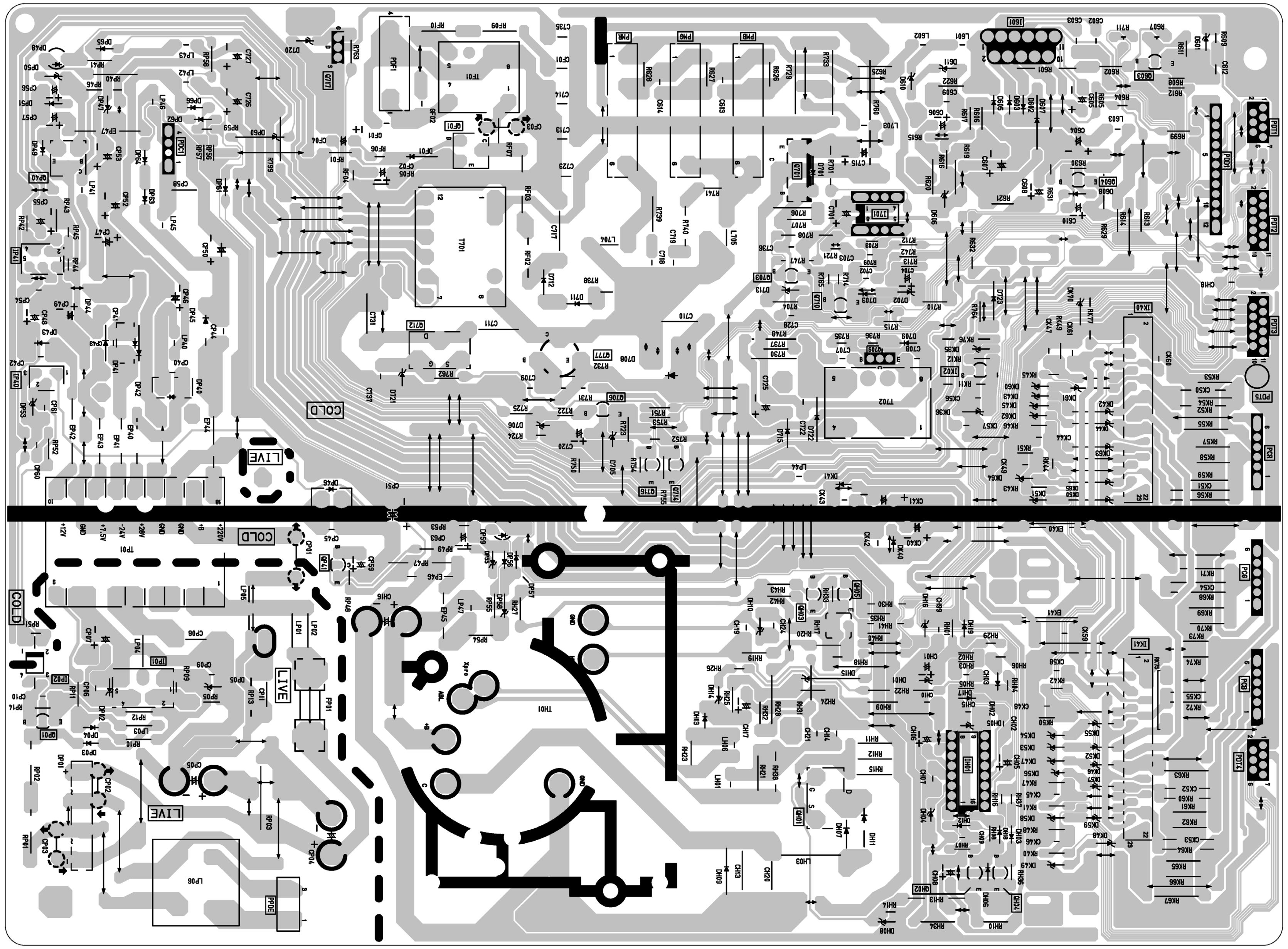
DP55 DEFLECTION PWB (Solder side)


COLD
LIVE
LIVE
COLD
COLD
LIVE

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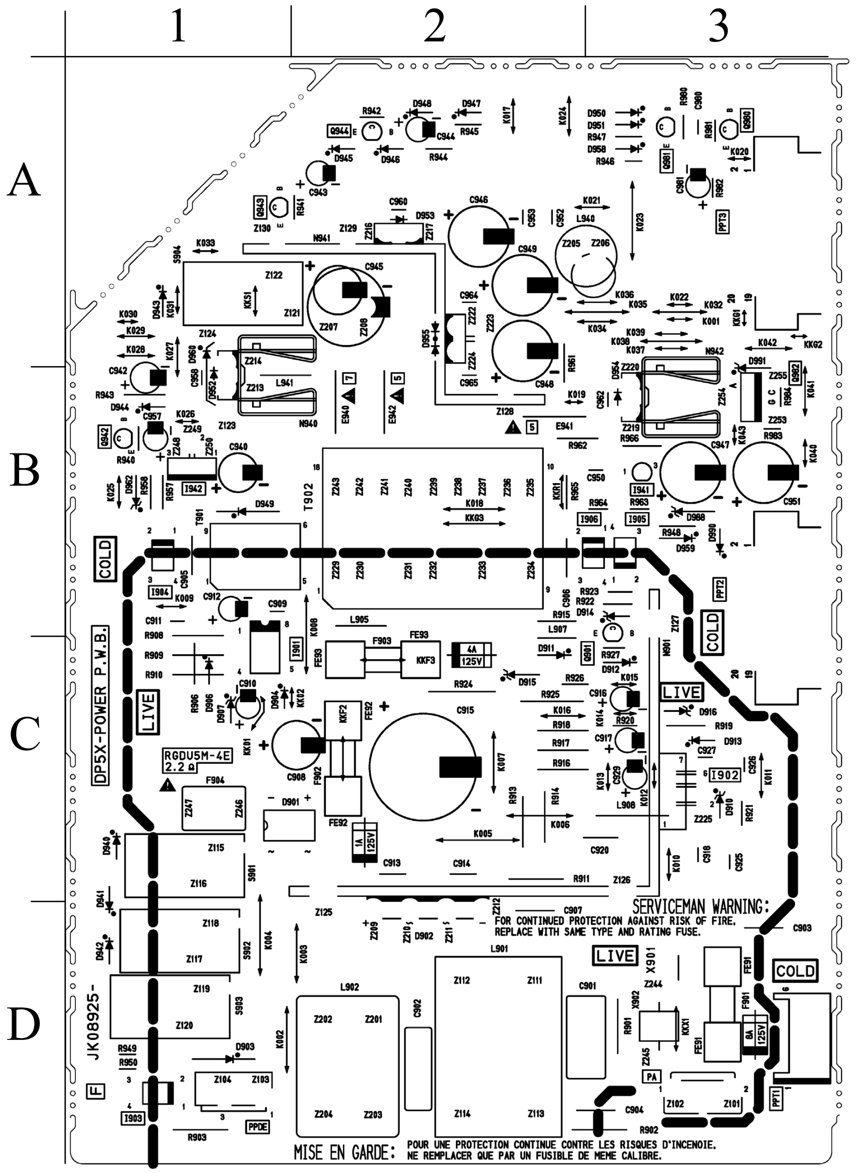
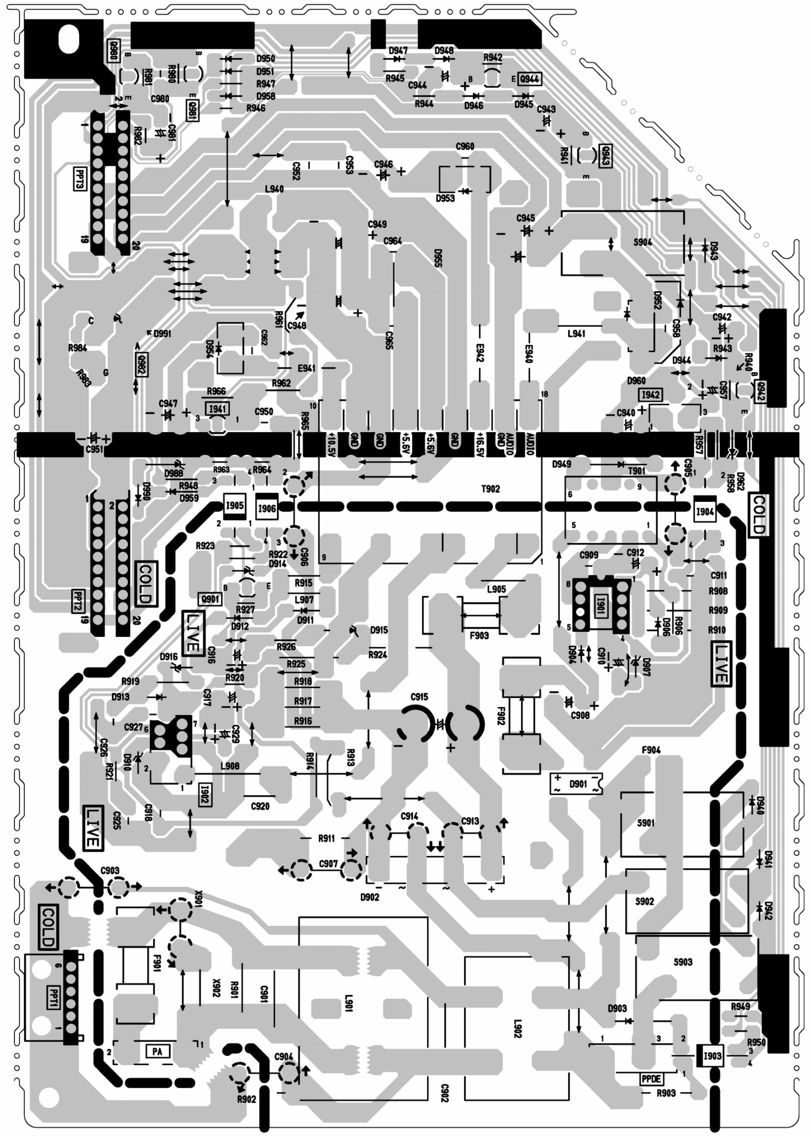
PRINTED CIRCUIT BOARDS

DP55 POWER PWB


1
2
3
A
B
C
D
DP5X-POWER P.W.B.
JK08925-
COLD
LIVE
SERVICEMAN WARNING:
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATING FUSE.
MISE EN GARDE:
POUR UNE PROTECTION CONTINUE CONTRE LES RISQUES D'INCENOIE.
NE REMPLACER QUE PAR UN FUSIBLE DE MEME CALIBRE.
T902
L901
L902
F901
8A 125V
1A 125V
4A 125V
RGDU5M-4E 2.2Ω

(Component side)


COLD
LIVE
T902
L941

(Solder side)

DP55 POWER PWB SEMICONDUCTOR LOCATION
(Component side)

IC	
I901	C-1
I902	C-3
I903	D-1
I904	B-1
I905	B-3
I906	B-3
I941	B-3
I942	B-1
TRANSISTOR	
Q901	C-3
Q942	B-1
Q943	A-1
Q944	A-2
Q980	A-3
Q981	A-3
Q982	B-3
DIODE	
D901	C-1
D902	C-2
D903	D-1
D904	C-1
D906	C-1
D907	C-1
D910	C-3
D911	C-2
D912	C-3
D913	C-3
D914	B-3
D915	C-2
D916	C-3
D940	C-1
D941	C-1
D942	D-1
D943	A-1
D944	B-1
D945	A-2
D946	A-2
D947	A-2
D948	A-2
D949	B-1
D950	A-3
D951	A-3
D952	B-1
D953	A-2
D954	B-3
D955	A-2
D958	A-3
D959	B-3
D960	B-1
D962	B-1
D988	B-3
D990	B-3
D991	B-3

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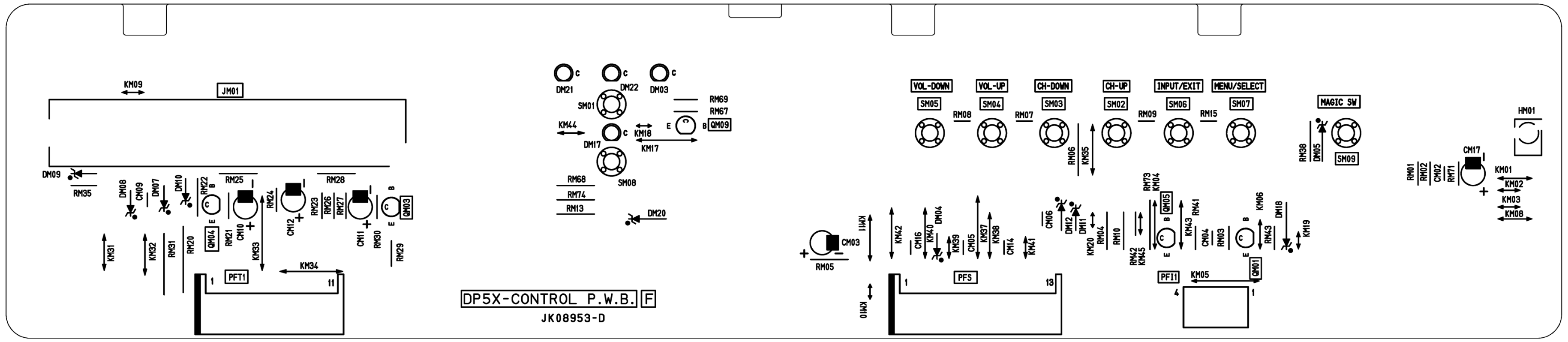
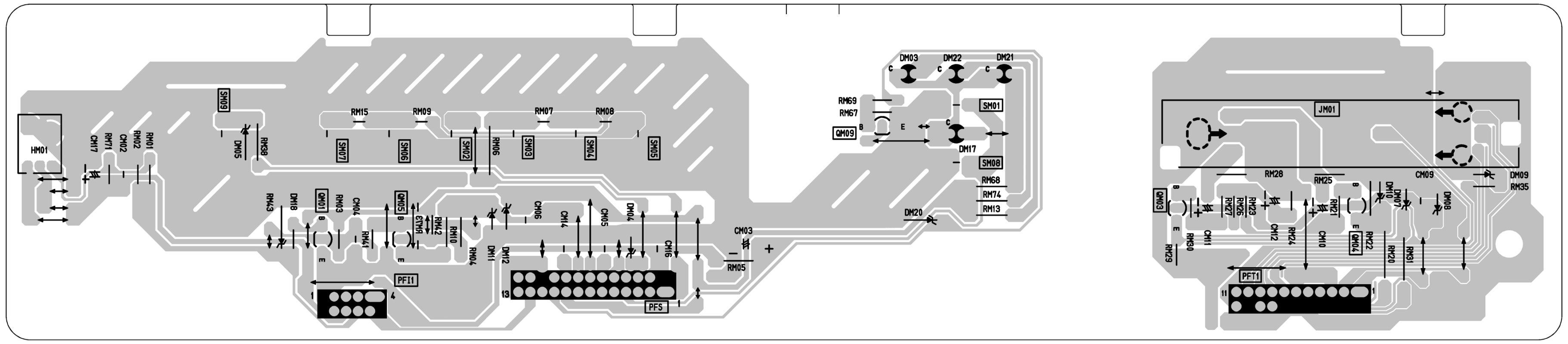
DP55 CONTROL PWB


VOL-DOWN
VOL-UP
CH-DOWN
CH-UP
INPUT/EXIT
MENU/SELECT
MAGIC SW
DP5X-CONTROL P.W.B. F
JK08953-D

(Component side)



(Solder side)

DP55 CONTROL PWB SEMICONDUCTOR
(Component side)

TRANSISTOR
QM01
QM03
QM04
QM05
QM09
DIODE
DM03
DM04
DM05
DM07
DM08
DM09
DM10
DM11
DM12
DM17
DM18
DM20
DM21
DM22
HM01

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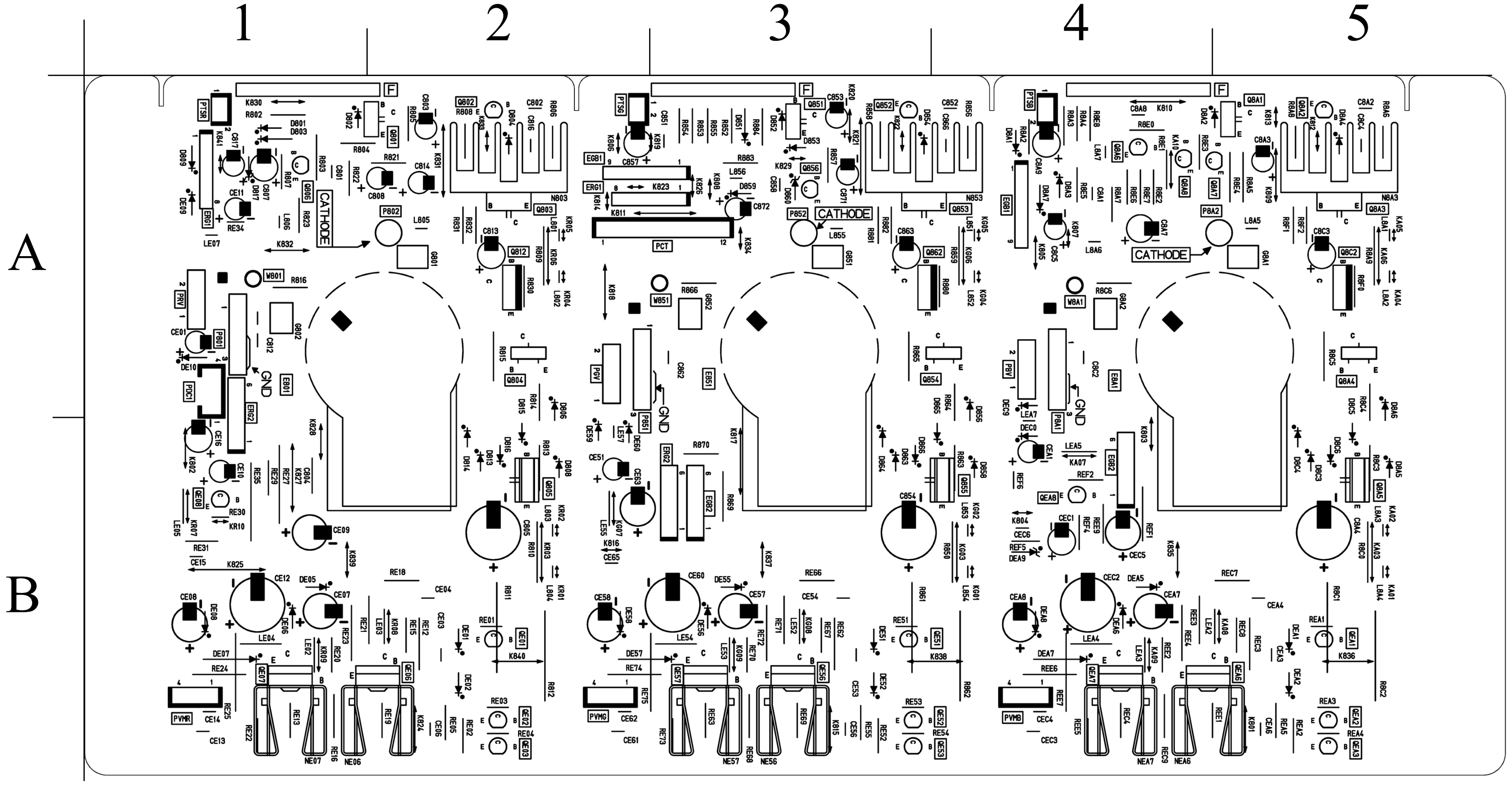
PRINTED CIRCUIT BOARDS

DP55 CPT PWB (Component side)



DP55 CPT PWB SEMICONDUCTOR LOCATION (Component side)

TRANSISTOR	
Q801	A-2
Q802	A-2
Q803	A-2
Q804	A-2
Q805	B-2
Q806	A-1
Q812	A-2
Q851	A-3
Q852	A-3
Q853	A-3
Q854	A-4
Q855	B-4
Q856	A-3
Q862	A-3
Q8A1	A-5
Q8A2	A-5
Q8A3	A-5
Q8A4	A-5
Q8A5	B-5
Q8A6	A-4
Q8A7	A-4
Q8A8	A-4
Q8C2	A-5
QE01	B-2
QE02	B-2
QE03	B-2
QE06	B-2
QE07	B-1
QE08	B-1
QE51	B-3
QE52	B-3
QE53	B-3
QE56	B-3
QE57	B-3
QEA1	B-5
QEA2	B-5
QEA3	B-5
QEA6	B-4
QEA7	B-4
QEA8	B-4

DIODE	
D801	A-1
D802	A-1
D803	A-1
D804	A-2
D806	A-2
D808	B-2
D809	A-1
D813	B-2
D814	B-2
D815	A-2
D816	B-2
D817	A-1
D851	A-3
D852	A-3
D853	A-3
D854	A-3
D856	A-4
D858	B-4
D859	A-3
D860	A-3
D863	B-3
D864	B-3
D865	A-3
D866	B-3
D8A1	A-4
D8A2	A-4
D8A3	A-4
D8A4	A-5
D8A5	B-5
D8A6	A-5
D8A7	A-4
D8C3	B-5
D8C4	B-5
D8C5	A-5
D8C6	B-5
DE01	B-2
DE02	B-2
DE05	B-1
DE06	B-1
DE07	B-1
DE08	B-1
DE09	A-1
DE10	A-1
DE51	B-3
DE52	B-3
DE55	B-3
DE56	B-3
DE57	B-2
DE58	B-2
DE59	B-2
DE60	B-2
DEA1	B-5
DEA2	B-5
DEA5	B-4
DEA6	B-4
DEA7	B-4
DEA8	B-4
DEA9	B-4
DEC0	B-4
DEC9	A-4

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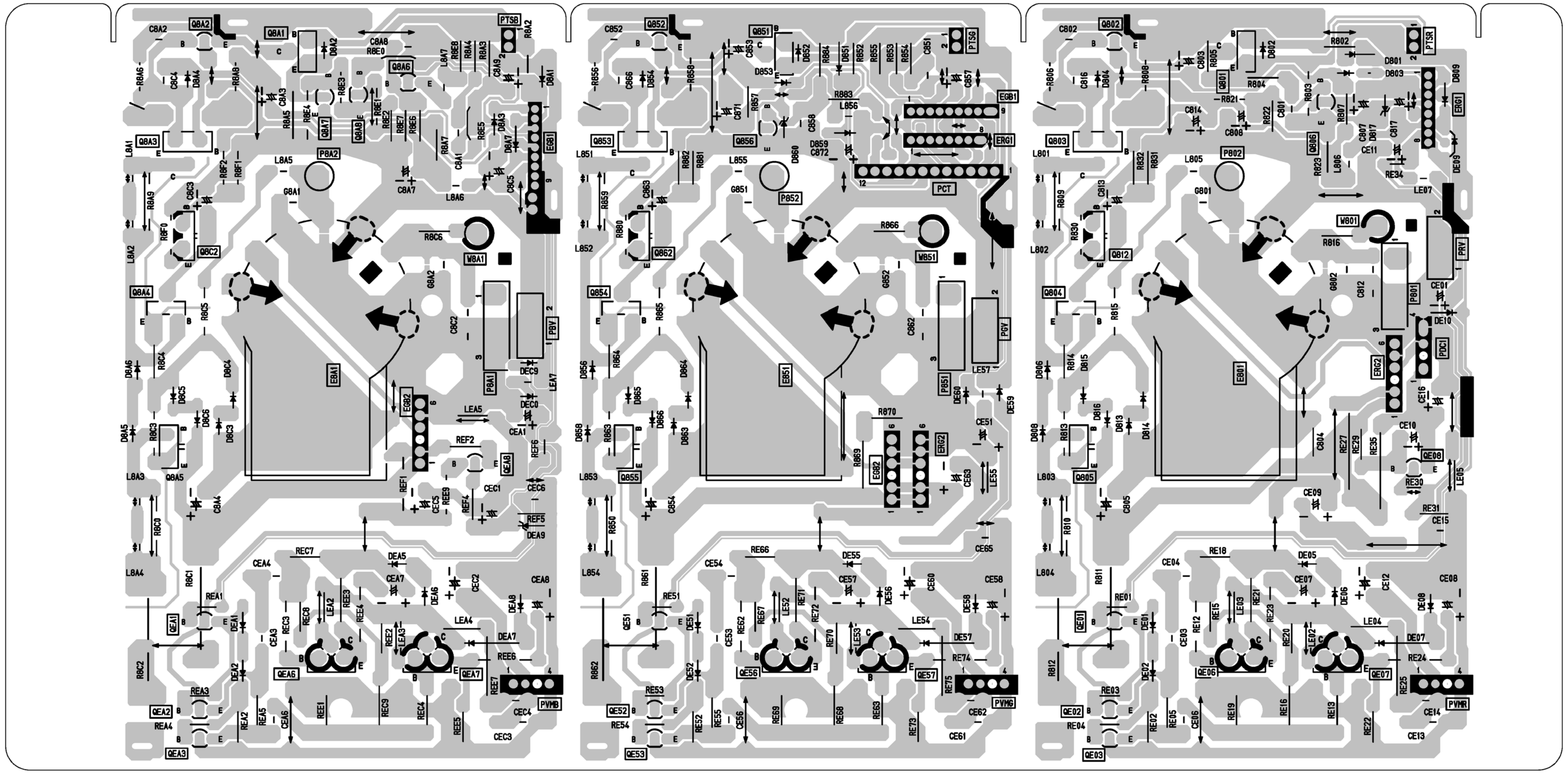
DP55 CPT PWB (Solder side)



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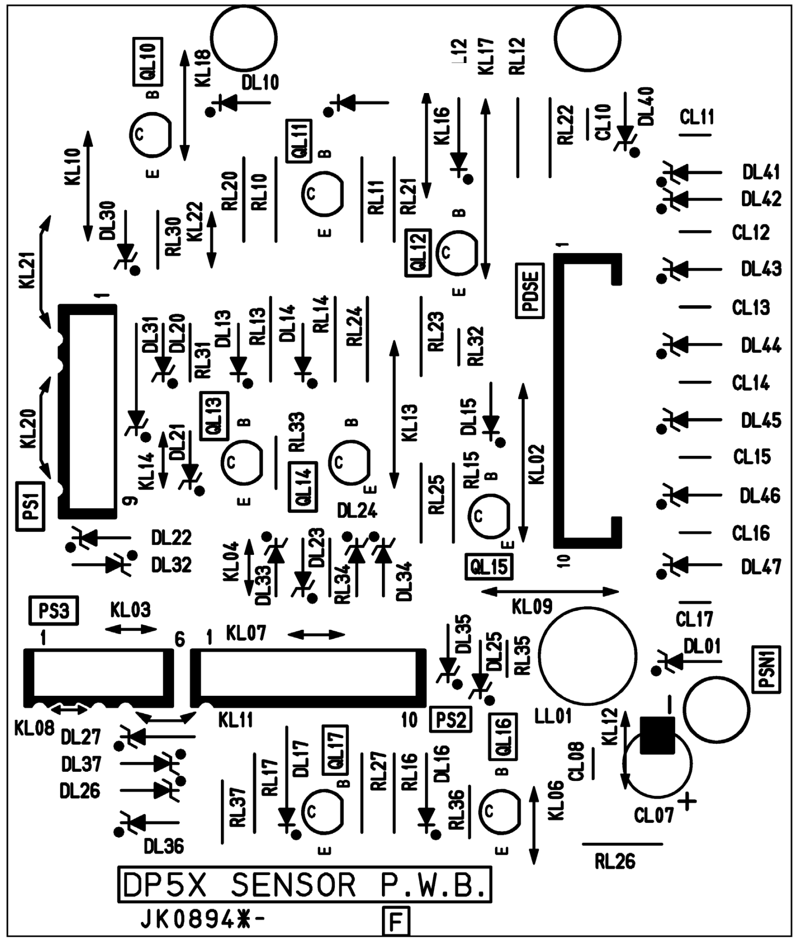
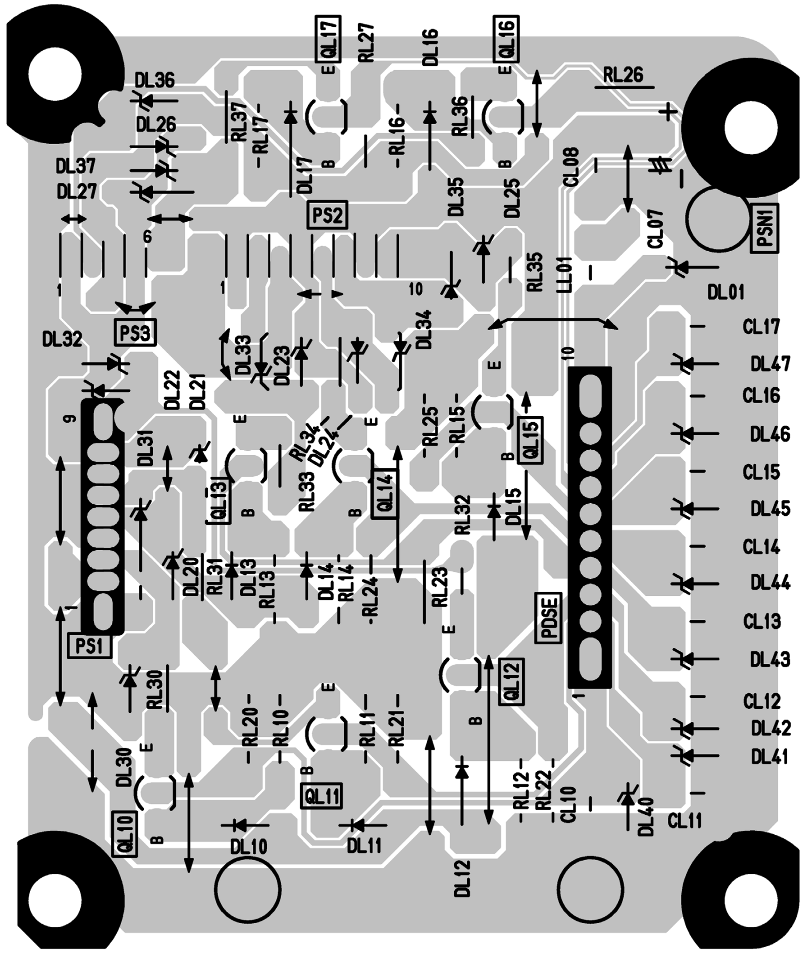
PRINTED CIRCUIT BOARDS

DP55 SENSOR PWB



(Component side)



(Solder side)

DP55 SENSOR PWB SEMICONDUCTOR
(Component side)

TRANSISTOR
QL10
QL11
QL12
QL13
QL14
QL15
QL16
QL17

DIODE
DL01
DL10
DL11
DL12
DL13
DL14
DL15
DL16
DL17
DL20
DL21
DL22
DL23
DL24
DL25
DL26
DL27
DL30
DL31
DL32
DL33
DL34
DL35
DL36
DL37
DL40
DL41
DL42
DL43
DL44
DL45
DL46
DL47

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REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS

Capacitors:
- AL: Aluminum Electrolytic
- CD: Ceramic Disc
- EL: Electrolitic
- PF: Polyester Film
- PP: Polypropylene
- PL: Plastic
- TA: Tantalum
- PR: Paper
- TM: Trimmer
- MC: Mylar

Resistors:
- CF: Carbon Film
- CC: Carbon Composition
- MF: Metal Oxide
- VR: Variable Resistor
- WW: Wire Wound
- FR: Fuse Resistor
- MG: Metal Grazed

Semiconductors:
- TR: Transistor
- DI: Diode
- ZD: Zener Diode
- VA: Varistor
- TH: Termistor
- IC: Integrated Circuit

SYMBOL	PART No.	DESCRIPTION
		SIGNAL PWB
		CAPACITORS
C001	0800326R	CAP.-ELECTRO. 100UF-M 16V
C002	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C004	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C006	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C007	0800326R	CAP.-ELECTRO. 100UF-M 16V
C008	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C010	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
C012	0800303R	CAP.-ELECTRO. 22UF-M 50V
C013	0893213R	CAP1608CHIP 2200PFKB 50V TAPE
C014	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C017	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C018	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C019	0800326R	CAP.-ELECTRO. 100UF-M 16V
C020	0893219R	CAP 1608CHIP 6800PFKB 50V TAPE
C021	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C022	AA01143R	CERAMIC CAPACITOR(0.22UF 16V-B)
C023	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C025	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C026	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C027	0893205R	CAP 1608CHIP 560PFKB 50V TAPE
C028	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C029	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C033	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C038	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C040	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C044	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C045	0800326R	CAP.-ELECTRO. 100UF-M 16V
C046	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C047	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C048	0800326R	CAP.-ELECTRO. 100UF-M 16V
C049	0893122R	CAP 1608CHIP 47PFJCH 50V TAPE
C050	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C051	0893122R	CAP 1608CHIP 47PFJCH 50V TAPE
C053	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C054	0893122R	CAP 1608CHIP 47PFJCH 50V TAPE
C055	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C056	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C057	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
C058	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C059	0800326R	CAP.-ELECTRO. 100UF-M 16V
C060	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C061	0800326R	CAP.-ELECTRO. 100UF-M 16V
C062	0800326R	CAP.-ELECTRO. 100UF-M 16V
C063	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C064	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C065	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C066	0893213R	CAP1608CHIP 2200PFKB 50V TAPE
C301	0800351R	CAP.-ELECTRO. 470UF-M 6.3V
C302	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C304	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C307	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C308	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C310	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C311	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C312	0800326R	CAP.-ELECTRO. 100UF-M 16V
C313	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C314	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C315	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C316	0800326R	CAP.-ELECTRO. 100UF-M 16V
C317	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C318	0800326R	CAP.-ELECTRO. 100UF-M 16V
C319	0800326R	CAP.-ELECTRO. 100UF-M 16V
C320	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C321	0800351R	CAP.-ELECTRO. 470UF-M 6.3V
C323	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
C400	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C401	0800352R	CAP.-ELECTRO.470UF 10V
C402	AA01123R	CCC105K10-B-16CT
C403	AA01123R	CCC105K10-B-16CT
C404	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C406	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C407	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C408	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C409	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C410	0800352R	CAP.-ELECTRO.470UF 10V
C411	AA01123R	CCC105K10-B-16CT

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
C412	AA01123R	CCC105K10-B-16CT	CA60	0284824F	CAP.-ELECTRO. 2200UF 35V
C413	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CA61	0284824F	CAP.-ELECTRO. 2200UF 35V
C414	AA01123R	CCC105K10-B-16CT	CA62	0880181R	CAP.METAL-POLY.FLM 0.01UF 50V
C415	AA01123R	CCC105K10-B-16CT	CA63	0880181R	CAP.METAL-POLY.FLM 0.01UF 50V
C416	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CA66	0800319R	CAP.-ELECTRO. 47UF-M 35V
C418	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CA67	0800328R	CAP. ELECTRO. 100UF-M 35V
C419	0800352R	CAP.-ELECTRO.470UF 10V	CA68	0800287R	CAP.-ELECTRO. 4.7UF-M(SMG)35V TAPE
C420	AA01123R	CCC105K10-B-16CT	CA69	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C421	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CC02	0800359R	CAP.-ELECTRO. 1000UF-M 10V
C422	AA01123R	CCC105K10-B-16CT	CC03	0800344R	CAP.-ELECTRO. 330UF-M(SMG) 16V
C423	0800303R	CAP.-ELECTRO. 22UF-M 50V	CC04	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C424	AA01123R	CCC105K10-B-16CT	CC05	0893213R	CAP1608CHIP 2200PFKB 50V TAPE
C425	AA01123R	CCC105K10-B-16CT	CC06	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
C426	AA01123R	CCC105K10-B-16CT	CC08	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C427	AA01123R	CCC105K10-B-16CT	CC09	0893205R	CAP 1608CHIP 560PFKB 50V TAPE
C428	AA01123R	CCC105K10-B-16CT	CC10	0893186R	CERAMIC CAPACITOR(33000PF 16V)
C429	AA01123R	CCC105K10-B-16CT	CC11	0800326R	CAP.-ELECTRO. 100UF-M 16V
C430	AA01123R	CCC105K10-B-16CT	CC12	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C431	AA01123R	CCC105K10-B-16CT	CC13	0800353R	CAP.-ELECTRO.470UF-M 16V
C432	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	CC17	0800326R	CAP.-ELECTRO. 100UF-M 16V
C433	0800352R	CAP.-ELECTRO.470UF 10V	CC19	0800326R	CAP.-ELECTRO. 100UF-M 16V
C434	0800352R	CAP.-ELECTRO.470UF 10V	CC20	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C435	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CC21	0800328R	CAP. ELECTRO. 100UF-M 35V
C436	0800326R	CAP.-ELECTRO. 100UF-M 16V	CC22	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C437	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CC23	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C438	AA01123R	CCC105K10-B-16CT	CC24	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C439	AA01123R	CCC105K10-B-16CT	CC25	0800326R	CAP.-ELECTRO. 100UF-M 16V
C440	AA01123R	CCC105K10-B-16CT	CC26	0800326R	CAP.-ELECTRO. 100UF-M 16V
C441	AA01123R	CCC105K10-B-16CT	CC27	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C447	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CC29	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C448	0800326R	CAP.-ELECTRO. 100UF-M 16V	CC30	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C453	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CC31	0893213R	CAP1608CHIP 2200PFKB 50V TAPE
C454	0800326R	CAP.-ELECTRO. 100UF-M 16V	CJ00	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C500	AA01123R	CCC105K10-B-16CT	CJ01	AA00991R	CERAMIC CAPACITOR(0.1UF 50V-B)
C501	AA01123R	CCC105K10-B-16CT	CJ02	AL01105R	CAP.ELECTROLYTIC 1000UF-M(YXF)
C502	AA01123R	CCC105K10-B-16CT	CJ03	0800334R	CAP.-ELECTRO. 220UF 10V
C503	AA01123R	CCC105K10-B-16CT	CJ04	0800326R	CAP.-ELECTRO. 100UF-M 16V
C504	AA01123R	CCC105K10-B-16CT	CJ05	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C505	AA01123R	CCC105K10-B-16CT	CJ08	0800326R	CAP.-ELECTRO. 100UF-M 16V
C506	AA01123R	CCC105K10-B-16CT	CJ09	AL01105R	CAP.ELECTROLYTIC 1000UF-M(YXF)
C507	AA01123R	CCC105K10-B-16CT	CJ10	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C508	AA01123R	CCC105K10-B-16CT	CJ11	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C509	AA01123R	CCC105K10-B-16CT	CJ12	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C510	AA01123R	CCC105K10-B-16CT	CS01	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C511	AA01123R	CCC105K10-B-16CT	CS08	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
C512	AA01123R	CCC105K10-B-16CT	CS09	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
C513	AA01123R	CCC105K10-B-16CT	CS10	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C514	AA01123R	CCC105K10-B-16CT	CS11	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
C515	AA01123R	CCC105K10-B-16CT	CS12	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C518	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CS13	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C519	0800326R	CAP.-ELECTRO. 100UF-M 16V	CS16	0800326R	CAP.-ELECTRO. 100UF-M 16V
C522	0800303R	CAP.-ELECTRO. 22UF-M 50V	CS17	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C523	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CS20	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C524	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CS21	AA01123R	CCC105K10-B-16CT
C526	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CS22	AA01123R	CCC105K10-B-16CT
C527	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CS23	0800326R	CAP.-ELECTRO. 100UF-M 16V
C590	0800352R	CAP.-ELECTRO.470UF 10V	CS24	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C591	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CS29	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
C592	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CS30	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
C593	0800326R	CAP.-ELECTRO. 100UF-M 16V	CS32	0893177R	CAP.CHIP-CERAMIC 68000PF 16V TAPE
CA17	0800326R	CAP.-ELECTRO. 100UF-M 16V	CS33	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CA34	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	CS35	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CA35	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	CS36	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CA36	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	CS38	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CA48	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CS39	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CA49	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CS40	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CA50	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	CS41	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CA51	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	CS42	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CA52	0800318R	CAP.-ELECTRO. 47UF-M 25V	CS43	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CA53	0800318R	CAP.-ELECTRO. 47UF-M 25V	CS44	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CA54	0800328R	CAP. ELECTRO. 100UF-M 35V	CS45	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
CA55	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CS46	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
CA56	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CS47	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
CA57	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CS48	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
CA59	AL01152R	CAP.ELECTROLYTIC 470UF-M(YXF)35V	CS49	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
CS50	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	CX19	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CS51	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	CX20	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CS52	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	CX21	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
CS54	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX22	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CS56	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX23	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CS57	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX24	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CS58	0893112R	CAP 1608CHIP 9PFCCH 50V TAPE	CX25	0800352R	CAP.-ELECTRO.470UF 10V
CS59	0893112R	CAP 1608CHIP 9PFCCH 50V TAPE	CX26	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CS60	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX27	0800326R	CAP.-ELECTRO. 100UF-M 16V
CT03	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX28	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT04	0800326R	CAP.-ELECTRO. 100UF-M 16V	CX29	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT05	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX30	0800352R	CAP.-ELECTRO.470UF 10V
CT06	0800326R	CAP.-ELECTRO. 100UF-M 16V	CX31	AA00934R	CAP. CERAMIC 2012 (2.2UF 10V)
CT07	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX32	AA00934R	CAP. CERAMIC 2012 (2.2UF 10V)
CT08	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX33	AA00934R	CAP. CERAMIC 2012 (2.2UF 10V)
CT09	0800326R	CAP.-ELECTRO. 100UF-M 16V	CX37	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT10	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX38	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT11	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX39	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT12	0800326R	CAP.-ELECTRO. 100UF-M 16V	CX40	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CT13	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX41	0800326R	CAP.-ELECTRO. 100UF-M 16V
CT14	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX42	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CT15	0800326R	CAP.-ELECTRO. 100UF-M 16V	CX43	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CT16	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX47	0800326R	CAP.-ELECTRO. 100UF-M 16V
CT17	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX48	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CT18	0800326R	CAP.-ELECTRO. 100UF-M 16V	CX51	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT19	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX52	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CT20	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX53	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CT22	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX54	0893113R	CAP 1608CHIP 10PFCCH 50V TAPE
CT23	0893206R	CAP 1608CHIP 680PFKB 50V TAPE	CX55	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT24	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX58	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CT25	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX59	0800326R	CAP.-ELECTRO. 100UF-M 16V
CT26	0893206R	CAP 1608CHIP 680PFKB 50V TAPE	CX60	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CT27	0893206R	CAP 1608CHIP 680PFKB 50V TAPE	CX63	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT28	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX64	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT29	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX67	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT30	0893206R	CAP 1608CHIP 680PFKB 50V TAPE	CX68	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT31	0893206R	CAP 1608CHIP 680PFKB 50V TAPE	CX71	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT32	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	CX72	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
CT33	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)			
CT34	0893206R	CAP 1608CHIP 680PFKB 50V TAPE			DIODES
CT35	0893209R	CAP 1608CHIP 1200PFKB 50V TAPE	D001	2348212M	ZENER DIODE MTZ-J15B
CT36	0893209R	CAP 1608CHIP 1200PFKB 50V TAPE	D002	2348212M	ZENER DIODE MTZ-J15B
CT37	0893209R	CAP 1608CHIP 1200PFKB 50V TAPE	D003	2348212M	ZENER DIODE MTZ-J15B
CT38	0893209R	CAP 1608CHIP 1200PFKB 50V TAPE	D004	2348212M	ZENER DIODE MTZ-J15B
CT39	0893209R	CAP 1608CHIP 1200PFKB 50V TAPE	D005	2344041M	DIODE 1SS254TA/1SS270TA
CT40	0893209R	CAP 1608CHIP 1200PFKB 50V TAPE	D008	2348212M	ZENER DIODE MTZ-J15B
CT41	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	D009	2348212M	ZENER DIODE MTZ-J15B
CT42	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	D010	2348212M	ZENER DIODE MTZ-J15B
CT43	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	D012	2348212M	ZENER DIODE MTZ-J15B
CT44	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	D013	2348123M	ZENER MTZJ-6.2C TA
CT45	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	D014	2348123M	ZENER MTZJ-6.2C TA
CT46	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	D301	2348212M	ZENER DIODE MTZ-J15B
CT53	0893117R	CAP 1608CHIP 22PFJCH 50V TAPE	D302	2348293M	DIODE MTZ-J33CTA
CT54	0893117R	CAP 1608CHIP 22PFJCH 50V TAPE	D401	2348172M	ZENER MTZJ-10B TA
CT55	0893117R	CAP 1608CHIP 22PFJCH 50V TAPE	D402	2348172M	ZENER MTZJ-10B TA
CT56	0893117R	CAP 1608CHIP 22PFJCH 50V TAPE	D403	2348172M	ZENER MTZJ-10B TA
CT57	0893117R	CAP 1608CHIP 22PFJCH 50V TAPE	D500	2348031M	DIO-MTZ-J2.7ATA
CT58	0893117R	CAP 1608CHIP 22PFJCH 50V TAPE	D501	2348031M	DIO-MTZ-J2.7ATA
CT61	0800326R	CAP.-ELECTRO. 100UF-M 16V	D502	CC01921R	SDS142WKF_PF
CT62	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	D503	CC01921R	SDS142WKF_PF
CT63	0800326R	CAP.-ELECTRO. 100UF-M 16V	DA01	2337341M	DIODE 1SS270A (TP)
CT64	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	DA02	2337341M	DIODE 1SS270A (TP)
CX02	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	DA03	2337341M	DIODE 1SS270A (TP)
CX06	AA00934R	CAP. CERAMIC 2012 (2.2UF 10V)	DA04	2337341M	DIODE 1SS270A (TP)
CX07	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	DA05	CC10521R	DIODE
CX09	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	DA11	CC01921R	SDS142WKF_PF
CX10	0800359R	CAP.-ELECTRO. 1000UF-M 10V	DA12	CC01921R	SDS142WKF_PF
CX11	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	DA13	CC01921R	SDS142WKF_PF
CX12	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	DA14	CC01921R	SDS142WKF_PF
CX13	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	DC01	2348142M	ZENER MTZ-J7.5BTA
CX14	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	DC02	2348142M	ZENER MTZ-J7.5BTA
CX15	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	DC03	2348142M	ZENER MTZ-J7.5BTA
CX16	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	DC04	2348142M	ZENER MTZ-J7.5BTA
CX17	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	DC05	2348142M	ZENER MTZ-J7.5BTA
CX18	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	DC06	2348142M	ZENER MTZ-J7.5BTA

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SYMBOL	PART #	DESCRIPTION
DC07	2348142M	ZENER MTZ-J7.5BTA
DC08	2348142M	ZENER MTZ-J7.5BTA
DC09	2348142M	ZENER MTZ-J7.5BTA
DC10	2348142M	ZENER MTZ-J7.5BTA
DC11	2348142M	ZENER MTZ-J7.5BTA
DC12	2348142M	ZENER MTZ-J7.5BTA
DC13	2348142M	ZENER MTZ-J7.5BTA
DC14	2344041M	DIODE 1SS254TA/1SS270TA
DC15	CC01921R	SDS142WKF_PF
DC16	CC10752R	DIODE(DAP202U T106)
DC17	2348212M	ZENER DIODE MTZ-J15B
DC18	CC10521R	DIODE
DC19	CC10521R	DIODE
DC20	CC10521R	DIODE
DC21	CC10521R	DIODE
DC22	CC02111R	RB521G-30
DC23	CC02111R	RB521G-30
DC24	2348142M	ZENER MTZ-J7.5BTA
DC25	2344041M	DIODE 1SS254TA/1SS270TA
DC26	CC10521R	DIODE
DC27	2344041M	DIODE 1SS254TA/1SS270TA
DC28	2348002M	DIODE MTZ-J2.0BT
DC29	2344041M	DIODE 1SS254TA/1SS270TA
DC30	2344041M	DIODE 1SS254TA/1SS270TA
DC31	2344041M	DIODE 1SS254TA/1SS270TA
DC32	2344041M	DIODE 1SS254TA/1SS270TA
DC33	2337341M	DIODE 1SS270A (TP)
DC34	CC10521R	DIODE
DC35	CC10521R	DIODE
DC36	CC10521R	DIODE
DC37	CC10521R	DIODE
DC38	CC10521R	DIODE
DC39	CC10521R	DIODE
DC47	2348142M	ZENER MTZ-J7.5BTA
DJ02	CH02673R	LED SM3517F6T (GREEN)
DJ03	CH02673R	LED SM3517F6T (GREEN)
DJ04	2348061M	DIODE MTZ-J3.6A TA
DJ06	CC10752R	DIODE(DAP202U T106)
DJ07	CC10752R	DIODE(DAP202U T106)
DJ08	2344041M	DIODE 1SS254TA/1SS270TA
DJ09	2344041M	DIODE 1SS254TA/1SS270TA
DJ14	2344041M	DIODE 1SS254TA/1SS270TA
DJ15	2344041M	DIODE 1SS254TA/1SS270TA
DJ16	2348101M	ZENER MTZJ-5.1A TA
DS01	2344041M	DIODE 1SS254TA/1SS270TA
DT01	2344041M	DIODE 1SS254TA/1SS270TA
DX00	2344041M	DIODE 1SS254TA/1SS270TA
DX01	2344041M	DIODE 1SS254TA/1SS270TA
DX02	2344041M	DIODE 1SS254TA/1SS270TA
DX04	CC10521R	DIODE
DX05	CC10521R	DIODE
DX06	CC10521R	DIODE
DX07	CC10521R	DIODE
DX08	2348193M	ZENER DIODE MTZJ-12C TA
DX15	2344041M	DIODE 1SS254TA/1SS270TA
		INTEGRATED CIRCUITS (IC's)
I001	CK50991U	M306H3MC-067FP
I002	CK51111R	BD37A41FVM
I004	CK37216R	MONO IC TK11133CSCL
I005	CK50951R	SN74CB3T3125PWR
I006	CK51091R	SN74LVC1G3157DCKR
I301	CP05163S	IC SI-3090F(LF1111)
I302	CK37605R	IC TK11250CM
I401	CK39882U	MM1630CQ
I501	CK39891R	MM1631XJBE
I591	CP05163S	IC SI-3090F(LF1111)
IA02	2004752	TA8200AHQ
IC01	CP08551U	S7805PI
IS01	CK39652R	DIGITAL MONOLITHIC IC (BR24L32FJ-WE2)
IS04	CK37216R	MONO IC TK11133CSCL
IS05	CK37052R	ANALOG MONOLITHIC IC(BD4742G)
IS06	CK38242U	DIGITAL MONOLITHIC IC (YGT-043
IS07	CK52631U	HD64336047A13HV
IT01	CK36942R	DIGITAL MONOLITHIC IC (CD0031B
IT02	CK37061R	ANALOG MONOLITHIC IC(NJM4565)
IT03	CK37061R	ANALOG MONOLITHIC IC(NJM4565)
IT04	CK37061R	ANALOG MONOLITHIC IC(NJM4565)
IT05	CK37061R	ANALOG MONOLITHIC IC(NJM4565)
IT06	CK37061R	ANALOG MONOLITHIC IC(NJM4565)
IT07	CK37061R	ANALOG MONOLITHIC IC(NJM4565)
IX01	CK38711U	IC TA1360AFG(HIT)
IX02	CP05163S	IC SI-3090F(LF1111)
		COILS
L001	BH00697R	FILTER COIL 100UH
L002	BH00697R	FILTER COIL 100UH
L003	BH00697R	FILTER COIL 100UH
L005	BH00697R	FILTER COIL 100UH
L006	BH00697R	FILTER COIL 100UH
L007	BH00697R	FILTER COIL 100UH
L400	BH00697R	FILTER COIL 100UH
L401	2123781R	FILTER COIL 100UH(EL0607)
L402	BH00697R	FILTER COIL 100UH
L403	BH00697R	FILTER COIL 100UH
L500	BH00697R	FILTER COIL 100UH
LA01	BH00697R	FILTER COIL 100UH
LA02	2125797N	FILT.COIL(LHL08 10UH)
LC02	BH01341M	COIL FERRITE BEADS 0.8UH
LC03	BH01341M	COIL FERRITE BEADS 0.8UH
LC05	BH01342M	COIL FERRITE BEADS 2.3UH
LJ00	2125797N	FILT.COIL(LHL08 10UH)
LJ01	2125797N	FILT.COIL(LHL08 10UH)
LJ03	2125803N	FILT.COIL(LHL08 27UH)
LX01	BH00697R	FILTER COIL 100UH
LX02	BH00697R	FILTER COIL 100UH
LX03	BH00697R	FILTER COIL 100UH
LX04	BH00697R	FILTER COIL 100UH
LX07	BH00697R	FILTER COIL 100UH
		TRANSISTORS
Q002	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q005	CA02142R	TRS.CHIP 2SC5343UFG_PF
Q008	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q011	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q012	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q013	CA02142R	TRS.CHIP 2SC5343UFG_PF
Q014	CA02142R	TRS.CHIP 2SC5343UFG_PF
Q015	CA02142R	TRS.CHIP 2SC5343UFG_PF
Q017	CA02142R	TRS.CHIP 2SC5343UFG_PF
Q018	CA02091R	SRC1204EF_PF
Q020	CA02142R	TRS.CHIP 2SC5343UFG_PF
Q021	CA02092R	SRC1202EF
Q025	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q026	CA02091R	SRC1204EF_PF
Q027	CA02091R	SRC1204EF_PF
Q029	CA02091R	SRC1204EF_PF
Q030	CA02142R	TRS.CHIP 2SC5343UFG_PF
Q301	CA02142R	TRS.CHIP 2SC5343UFG_PF
Q400	CA02142R	TRS.CHIP 2SC5343UFG_PF
Q401	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q402	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q403	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q407	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q408	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q409	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q410	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q500	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q501	CA02132R	TRS.CHIP 2SA1980UFG_PF
Q502	CA00461R	TRS.CHIP 2SD2114K 20V TAPE
Q503	CA00461R	TRS.CHIP 2SD2114K 20V TAPE
Q504	CA02142R	TRS.CHIP 2SC5343UFG_PF
Q505	CA02142R	TRS.CHIP 2SC5343UFG_PF
QA01	CA02142R	TRS.CHIP 2SC5343UFG_PF
QA02	CA02132R	TRS.CHIP 2SA1980UFG_PF
QA03	CA02142R	TRS.CHIP 2SC5343UFG_PF
QA04	CA02132R	TRS.CHIP 2SA1980UFG_PF
QA05	CA00461R	TRS.CHIP 2SD2114K 20V TAPE
QA06	CA00461R	TRS.CHIP 2SD2114K 20V TAPE
QA07	CA02142R	TRS.CHIP 2SC5343UFG_PF

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
QA08	CA02142R	TRS.CHIP 2SC5343UFG_PF	R030	0790042R	RES.CHIP 1/16W 2.2K OHM
QA13	CA02132R	TRS.CHIP 2SA1980UFG_PF	R032	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
QA14	CA02142R	TRS.CHIP 2SC5343UFG_PF	R033	0790046R	RES.CHIP 1/16W 4.7K OHM
QA15	CA02142R	TRS.CHIP 2SC5343UFG_PF	R034	0790028R	RES.CHIP 1/16W 220 OHM
QC01	CA02142R	TRS.CHIP 2SC5343UFG_PF	R035	0790051R	RES.CHIP 1/16W 10K OHM
QC02	CA02132R	TRS.CHIP 2SA1980UFG_PF	R037	0790051R	RES.CHIP 1/16W 10K OHM
QC03	CA02142R	TRS.CHIP 2SC5343UFG_PF	R038	0790055R	RES.CHIP 1/16W 22K OHM
QC04	CA02132R	TRS.CHIP 2SA1980UFG_PF	R039	0790052R	RES.CHIP 1/16W 12K OHM
QC05	CA02142R	TRS.CHIP 2SC5343UFG_PF	R040	0790064R	RES.CHIP 1/16W 100K OHM
QC06	CA02142R	TRS.CHIP 2SC5343UFG_PF	R042	0790059R	RES.CHIP 1/16W 47K OHM
QC07	CA02132R	TRS.CHIP 2SA1980UFG_PF	R043	0790046R	RES.CHIP 1/16W 4.7K OHM
QC08	CA02142R	TRS.CHIP 2SC5343UFG_PF	R044	0790064R	RES.CHIP 1/16W 100K OHM
QC09	CA02142R	TRS.CHIP 2SC5343UFG_PF	R046	0790046R	RES.CHIP 1/16W 4.7K OHM
QC10	CA02142R	TRS.CHIP 2SC5343UFG_PF	R047	0790047R	RES.CHIP 1/16W 5.6K OHM
QC11	CA02142R	TRS.CHIP 2SC5343UFG_PF	R048	0790047R	RES.CHIP 1/16W 5.6K OHM
QC12	CA02132R	TRS.CHIP 2SA1980UFG_PF	R049	0790056R	RES.CHIP 1/16W 27K OHM
QC13	CA02142R	TRS.CHIP 2SC5343UFG_PF	R051	0790037R	RES.CHIP 1/16W 1.0K OHM
QC14	CA02132R	TRS.CHIP 2SA1980UFG_PF	R052	0790037R	RES.CHIP 1/16W 1.0K OHM
QC15	CA02132R	TRS.CHIP 2SA1980UFG_PF	R053	0790059R	RES.CHIP 1/16W 47K OHM
QC16	2312171F	TRS. 2SC3852(LF619)	R055	0790024R	RES.CHIP 1/16W 100 OHM
QC17	CA02142R	TRS.CHIP 2SC5343UFG_PF	R056	0790038R	RES.CHIP 1/16W 1.2K OHM
QC21	CA02142R	TRS.CHIP 2SC5343UFG_PF	R057	0790052R	RES.CHIP 1/16W 12K OHM
QJ00	CA02091R	SRC1204EF_PF	R058	0790037R	RES.CHIP 1/16W 1.0K OHM
QJ01	CA02132R	TRS.CHIP 2SA1980UFG_PF	R059	0790051R	RES.CHIP 1/16W 10K OHM
QJ02	CA02132R	TRS.CHIP 2SA1980UFG_PF	R060	0790051R	RES.CHIP 1/16W 10K OHM
QJ03	CA02142R	TRS.CHIP 2SC5343UFG_PF	R061	0790037R	RES.CHIP 1/16W 1.0K OHM
QJ04	CA02142R	TRS.CHIP 2SC5343UFG_PF	R062	0790037R	RES.CHIP 1/16W 1.0K OHM
QJ06	CA02132R	TRS.CHIP 2SA1980UFG_PF	R063	0790037R	RES.CHIP 1/16W 1.0K OHM
QX03	CA02142R	TRS.CHIP 2SC5343UFG_PF	R064	0790037R	RES.CHIP 1/16W 1.0K OHM
QX04	CA02142R	TRS.CHIP 2SC5343UFG_PF	R065	0790037R	RES.CHIP 1/16W 1.0K OHM
QX05	CA02142R	TRS.CHIP 2SC5343UFG_PF	R066	0790037R	RES.CHIP 1/16W 1.0K OHM
QX06	CA02132R	TRS.CHIP 2SA1980UFG_PF	R067	0790037R	RES.CHIP 1/16W 1.0K OHM
QX07	CA02142R	TRS.CHIP 2SC5343UFG_PF	R068	0790046R	RES.CHIP 1/16W 4.7K OHM
QX08	CA02132R	TRS.CHIP 2SA1980UFG_PF	R069	0790037R	RES.CHIP 1/16W 1.0K OHM
QX09	CA02132R	TRS.CHIP 2SA1980UFG_PF	R070	0790033R	RES.CHIP 1/16W 470 OHM
QX10	CA02132R	TRS.CHIP 2SA1980UFG_PF	R071	0790051R	RES.CHIP 1/16W 10K OHM
QX11	CA02132R	TRS.CHIP 2SA1980UFG_PF	R075	0790051R	RES.CHIP 1/16W 10K OHM
QX12	CA02142R	TRS.CHIP 2SC5343UFG_PF	R076	0790051R	RES.CHIP 1/16W 10K OHM
QX13	CA02142R	TRS.CHIP 2SC5343UFG_PF	R077	0790037R	RES.CHIP 1/16W 1.0K OHM
QX14	CA02132R	TRS.CHIP 2SA1980UFG_PF	R078	0790024R	RES.CHIP 1/16W 100 OHM
QX15	CA02132R	TRS.CHIP 2SA1980UFG_PF	R079	0790024R	RES.CHIP 1/16W 100 OHM
QX16	CA02132R	TRS.CHIP 2SA1980UFG_PF	R080	0790024R	RES.CHIP 1/16W 100 OHM
QX17	CF02981R	2SC5343YT_PF	R081	0790024R	RES.CHIP 1/16W 100 OHM
QX20	CA02142R	TRS.CHIP 2SC5343UFG_PF	R082	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
QX21	CA02142R	TRS.CHIP 2SC5343UFG_PF	R083	0790051R	RES.CHIP 1/16W 10K OHM
QX22	CA02142R	TRS.CHIP 2SC5343UFG_PF	R085	0790059R	RES.CHIP 1/16W 47K OHM
QX23	CA02142R	TRS.CHIP 2SC5343UFG_PF	R086	0790037R	RES.CHIP 1/16W 1.0K OHM
QX24	CA02132R	TRS.CHIP 2SA1980UFG_PF	R087	0790037R	RES.CHIP 1/16W 1.0K OHM
QX25	CF02991R	2SA1979YT_PF	R091	0790024R	RES.CHIP 1/16W 100 OHM
QX26	CA02142R	TRS.CHIP 2SC5343UFG_PF	R092	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
QX29	CA02132R	TRS.CHIP 2SA1980UFG_PF	R102	0790037R	RES.CHIP 1/16W 1.0K OHM
QX30	CF02991R	2SA1979YT_PF	R103	0790037R	RES.CHIP 1/16W 1.0K OHM
QX33	CA02132R	TRS.CHIP 2SA1980UFG_PF	R104	0790037R	RES.CHIP 1/16W 1.0K OHM
QX34	CF02991R	2SA1979YT_PF	R108	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
QX37	CA02132R	TRS.CHIP 2SA1980UFG_PF	R109	0790037R	RES.CHIP 1/16W 1.0K OHM
QX38	CF02991R	2SA1979YT_PF	R110	0790037R	RES.CHIP 1/16W 1.0K OHM
QX39	CA02142R	TRS.CHIP 2SC5343UFG_PF	R111	0790051R	RES.CHIP 1/16W 10K OHM
			R112	0790037R	RES.CHIP 1/16W 1.0K OHM
		RESISTORS	R113	0790037R	RES.CHIP 1/16W 1.0K OHM
R002	0790024R	RES.CHIP 1/16W 100 OHM	R114	0790051R	RES.CHIP 1/16W 10K OHM
R006	0790046R	RES.CHIP 1/16W 4.7K OHM	R115	0790051R	RES.CHIP 1/16W 10K OHM
R009	0790058R	RES.CHIP 1/16W 39K OHM	R116	0790051R	RES.CHIP 1/16W 10K OHM
R010	0790059R	RES.CHIP 1/16W 47K OHM	R119	0790024R	RES.CHIP 1/16W 100 OHM
R011	0790051R	RES.CHIP 1/16W 10K OHM	R120	0790024R	RES.CHIP 1/16W 100 OHM
R014	0790059R	RES.CHIP 1/16W 47K OHM	R121	0790024R	RES.CHIP 1/16W 100 OHM
R015	0790051R	RES.CHIP 1/16W 10K OHM	R122	0790037R	RES.CHIP 1/16W 1.0K OHM
R017	0790024R	RES.CHIP 1/16W 100 OHM	R123	0790037R	RES.CHIP 1/16W 1.0K OHM
R019	0790044R	RES.CHIP 1/16W 3.3K OHM	R124	0790037R	RES.CHIP 1/16W 1.0K OHM
R020	0790051R	RES.CHIP 1/16W 10K OHM	R125	0790037R	RES.CHIP 1/16W 1.0K OHM
R021	0790055R	RES.CHIP 1/16W 22K OHM	R126	0790037R	RES.CHIP 1/16W 1.0K OHM
R023	0790037R	RES.CHIP 1/16W 1.0K OHM	R127	0790037R	RES.CHIP 1/16W 1.0K OHM
R024	0790024R	RES.CHIP 1/16W 100 OHM	R128	0790037R	RES.CHIP 1/16W 1.0K OHM
R027	0790057R	RES.CHIP 1/16W 33K OHM	R129	0790037R	RES.CHIP 1/16W 1.0K OHM
R028	0790051R	RES.CHIP 1/16W 10K OHM	R130	0790024R	RES.CHIP 1/16W 100 OHM
R029	0790059R	RES.CHIP 1/16W 47K OHM	R131	0790024R	RES.CHIP 1/16W 100 OHM

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
R132	0790024R	RES.CHIP 1/16W 100 OHM	R409	0790024R	RES.CHIP 1/16W 100 OHM
R133	0790024R	RES.CHIP 1/16W 100 OHM	R410	0790024R	RES.CHIP 1/16W 100 OHM
R134	0790024R	RES.CHIP 1/16W 100 OHM	R411	0790024R	RES.CHIP 1/16W 100 OHM
R135	0790024R	RES.CHIP 1/16W 100 OHM	R412	0790037R	RES.CHIP 1/16W 1.0K OHM
R136	0790024R	RES.CHIP 1/16W 100 OHM	R413	0790024R	RES.CHIP 1/16W 100 OHM
R137	0790024R	RES.CHIP 1/16W 100 OHM	R414	0790024R	RES.CHIP 1/16W 100 OHM
R138	0790037R	RES.CHIP 1/16W 1.0K OHM	R415	0790037R	RES.CHIP 1/16W 1.0K OHM
R139	0790051R	RES.CHIP 1/16W 10K OHM	R416	0790024R	RES.CHIP 1/16W 100 OHM
R140	0196060R	RES 1608 CHIP 1/16W 510J TAPE	R417	0790024R	RES.CHIP 1/16W 100 OHM
R141	0196075R	RES 1608 CHIP 1/16W 2.0KJ TAPE	R418	0790024R	RES.CHIP 1/16W 100 OHM
R142	0196075R	RES 1608 CHIP 1/16W 2.0KJ TAPE	R419	0790024R	RES.CHIP 1/16W 100 OHM
R143	0790051R	RES.CHIP 1/16W 10K OHM	R420	0790024R	RES.CHIP 1/16W 100 OHM
R144	0790051R	RES.CHIP 1/16W 10K OHM	R421	0790024R	RES.CHIP 1/16W 100 OHM
R146	0790051R	RES.CHIP 1/16W 10K OHM	R422	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R148	0790059R	RES.CHIP 1/16W 47K OHM	R423	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R149	0790059R	RES.CHIP 1/16W 47K OHM	R424	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R150	0790059R	RES.CHIP 1/16W 47K OHM	R425	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R151	0790059R	RES.CHIP 1/16W 47K OHM	R426	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R157	0790051R	RES.CHIP 1/16W 10K OHM	R427	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R158	0790051R	RES.CHIP 1/16W 10K OHM	R428	0790037R	RES.CHIP 1/16W 1.0K OHM
R160	0790051R	RES.CHIP 1/16W 10K OHM	R430	0790037R	RES.CHIP 1/16W 1.0K OHM
R161	0790051R	RES.CHIP 1/16W 10K OHM	R431	0790051R	RES.CHIP 1/16W 10K OHM
R165	0790024R	RES.CHIP 1/16W 100 OHM	R432	0790051R	RES.CHIP 1/16W 10K OHM
R166	0790024R	RES.CHIP 1/16W 100 OHM	R433	0790051R	RES.CHIP 1/16W 10K OHM
R167	0790024R	RES.CHIP 1/16W 100 OHM	R434	0790051R	RES.CHIP 1/16W 10K OHM
R168	0790037R	RES.CHIP 1/16W 1.0K OHM	R435	0790024R	RES.CHIP 1/16W 100 OHM
R170	0790037R	RES.CHIP 1/16W 1.0K OHM	R436	0790037R	RES.CHIP 1/16W 1.0K OHM
R171	0790024R	RES.CHIP 1/16W 100 OHM	R437	0790024R	RES.CHIP 1/16W 100 OHM
R172	0790024R	RES.CHIP 1/16W 100 OHM	R438	0790024R	RES.CHIP 1/16W 100 OHM
R173	0790037R	RES.CHIP 1/16W 1.0K OHM	R439	0790051R	RES.CHIP 1/16W 10K OHM
R174	0790037R	RES.CHIP 1/16W 1.0K OHM	R440	0790051R	RES.CHIP 1/16W 10K OHM
R180	0790051R	RES.CHIP 1/16W 10K OHM	R441	0790024R	RES.CHIP 1/16W 100 OHM
R181	0790037R	RES.CHIP 1/16W 1.0K OHM	R442	0790024R	RES.CHIP 1/16W 100 OHM
R182	0790035R	RES.CHIP 1/16W 680 OHM	R443	0790024R	RES.CHIP 1/16W 100 OHM
R183	0790037R	RES.CHIP 1/16W 1.0K OHM	R444	0790024R	RES.CHIP 1/16W 100 OHM
R184	0790037R	RES.CHIP 1/16W 1.0K OHM	R445	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R185	0790037R	RES.CHIP 1/16W 1.0K OHM	R446	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R186	0790037R	RES.CHIP 1/16W 1.0K OHM	R447	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R187	0790037R	RES.CHIP 1/16W 1.0K OHM	R448	0790024R	RES.CHIP 1/16W 100 OHM
R188	0790037R	RES.CHIP 1/16W 1.0K OHM	R449	0790024R	RES.CHIP 1/16W 100 OHM
R189	0790037R	RES.CHIP 1/16W 1.0K OHM	R450	0790024R	RES.CHIP 1/16W 100 OHM
R190	0790037R	RES.CHIP 1/16W 1.0K OHM	R451	0790024R	RES.CHIP 1/16W 100 OHM
R192	0790051R	RES.CHIP 1/16W 10K OHM	R452	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R193	0790051R	RES.CHIP 1/16W 10K OHM	R453	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R194	0790037R	RES.CHIP 1/16W 1.0K OHM	R454	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R196	0790051R	RES.CHIP 1/16W 10K OHM	R455	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE
R197	0790051R	RES.CHIP 1/16W 10K OHM	R456	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE
R198	0790059R	RES.CHIP 1/16W 47K OHM	R457	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE
R200	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R458	0790064R	RES.CHIP 1/16W 100K OHM
R201	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R459	0790064R	RES.CHIP 1/16W 100K OHM
R202	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R460	0790064R	RES.CHIP 1/16W 100K OHM
R257	0790051R	RES.CHIP 1/16W 10K OHM	R462	0790051R	RES.CHIP 1/16W 10K OHM
R258	0790059R	RES.CHIP 1/16W 47K OHM	R463	0790051R	RES.CHIP 1/16W 10K OHM
R259	0790046R	RES.CHIP 1/16W 4.7K OHM	R464	0790064R	RES.CHIP 1/16W 100K OHM
R303	0790024R	RES.CHIP 1/16W 100 OHM	R465	0790064R	RES.CHIP 1/16W 100K OHM
R305	0790024R	RES.CHIP 1/16W 100 OHM	R466	0790064R	RES.CHIP 1/16W 100K OHM
R306	0790024R	RES.CHIP 1/16W 100 OHM	R467	0790064R	RES.CHIP 1/16W 100K OHM
R307	0790024R	RES.CHIP 1/16W 100 OHM	R468	0790051R	RES.CHIP 1/16W 10K OHM
R309	0790051R	RES.CHIP 1/16W 10K OHM	R469	0790037R	RES.CHIP 1/16W 1.0K OHM
R311	0790055R	RES.CHIP 1/16W 22K OHM	R470	0790059R	RES.CHIP 1/16W 47K OHM
R312	0790059R	RES.CHIP 1/16W 47K OHM	R471	0790059R	RES.CHIP 1/16W 47K OHM
R313	0790051R	RES.CHIP 1/16W 10K OHM	R472	0790033R	RES.CHIP 1/16W 470 OHM
R314	0790024R	RES.CHIP 1/16W 100 OHM	R476	0790041R	RES.CHIP 1/16W 1.8K OHM
R315	0790051R	RES.CHIP 1/16W 10K OHM	R480	0790024R	RES.CHIP 1/16W 100 OHM
R316	0790028R	RES.CHIP 1/16W 220 OHM	R481	0790024R	RES.CHIP 1/16W 100 OHM
R317	0790034R	RES.CHIP 1/16W 560 OHM	R482	0790024R	RES.CHIP 1/16W 100 OHM
R318	0790034R	RES.CHIP 1/16W 560 OHM	R483	0790024R	RES.CHIP 1/16W 100 OHM
R319	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R484	0790041R	RES.CHIP 1/16W 1.8K OHM
R320	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R485	0790034R	RES.CHIP 1/16W 560 OHM
R324	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R486	0790034R	RES.CHIP 1/16W 560 OHM
R325	0195250R	RES 2125 CHIP JAMPER WIRE	R487	0790034R	RES.CHIP 1/16W 560 OHM
R401	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	R500	0790064R	RES.CHIP 1/16W 100K OHM
R402	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	R501	0790064R	RES.CHIP 1/16W 100K OHM
R403	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	R502	0790064R	RES.CHIP 1/16W 100K OHM
R404	0790051R	RES.CHIP 1/16W 10K OHM	R503	0790064R	RES.CHIP 1/16W 100K OHM

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
R504	0790064R	RES.CHIP 1/16W 100K OHM	RA51	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE
R505	0790064R	RES.CHIP 1/16W 100K OHM	RA52	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE
R506	0790064R	RES.CHIP 1/16W 100K OHM	RA55	0790033R	RES.CHIP 1/16W 470 OHM
R507	0790064R	RES.CHIP 1/16W 100K OHM	RA56	0790037R	RES.CHIP 1/16W 1.0K OHM
R508	0790064R	RES.CHIP 1/16W 100K OHM	RA57	0790051R	RES.CHIP 1/16W 10K OHM
R509	0790064R	RES.CHIP 1/16W 100K OHM	RA58	0790051R	RES.CHIP 1/16W 10K OHM
R510	0790042R	RES.CHIP 1/16W 2.2K OHM	RA59	0790059R	RES.CHIP 1/16W 47K OHM
R511	0790042R	RES.CHIP 1/16W 2.2K OHM	RA60	0790063R	RES.CHIP 1/16W 82K OHM
R512	0790042R	RES.CHIP 1/16W 2.2K OHM	RA61	0790063R	RES.CHIP 1/16W 82K OHM
R513	0790042R	RES.CHIP 1/16W 2.2K OHM	RA62	0790037R	RES.CHIP 1/16W 1.0K OHM
R514	0790042R	RES.CHIP 1/16W 2.2K OHM	RA63	AT03197S	METAL OX. 2.2OHM 1W
R515	0790042R	RES.CHIP 1/16W 2.2K OHM	RA64	AT03197S	METAL OX. 2.2OHM 1W
R516	0790042R	RES.CHIP 1/16W 2.2K OHM	RA65	0790062R	RES.CHIP 1/16W 68K OHM
R517	0790042R	RES.CHIP 1/16W 2.2K OHM	RA66	0790062R	RES.CHIP 1/16W 68K OHM
R518	0790042R	RES.CHIP 1/16W 2.2K OHM	RA67	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR
R519	0790042R	RES.CHIP 1/16W 2.2K OHM	RA68	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR
R520	0790042R	RES.CHIP 1/16W 2.2K OHM	RA69	0790063R	RES.CHIP 1/16W 82K OHM
R521	0790042R	RES.CHIP 1/16W 2.2K OHM	RA88	0790055R	RES.CHIP 1/16W 22K OHM
R522	0790042R	RES.CHIP 1/16W 2.2K OHM	RA89	0790059R	RES.CHIP 1/16W 47K OHM
R523	0790042R	RES.CHIP 1/16W 2.2K OHM	RA90	0790059R	RES.CHIP 1/16W 47K OHM
R524	0790042R	RES.CHIP 1/16W 2.2K OHM	RA91	0790063R	RES.CHIP 1/16W 82K OHM
R525	0790042R	RES.CHIP 1/16W 2.2K OHM	RA92	0790059R	RES.CHIP 1/16W 47K OHM
R528	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RA93	0790037R	RES.CHIP 1/16W 1.0K OHM
R529	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RC00	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R530	0790044R	RES.CHIP 1/16W 3.3K OHM	RC02	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R531	0790044R	RES.CHIP 1/16W 3.3K OHM	RC03	0790037R	RES.CHIP 1/16W 1.0K OHM
R532	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC05	0790051R	RES.CHIP 1/16W 10K OHM
R533	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC06	0790037R	RES.CHIP 1/16W 1.0K OHM
R534	0790024R	RES.CHIP 1/16W 100 OHM	RC07	0790055R	RES.CHIP 1/16W 22K OHM
R535	0790024R	RES.CHIP 1/16W 100 OHM	RC08	0790059R	RES.CHIP 1/16W 47K OHM
R536	0790064R	RES.CHIP 1/16W 100K OHM	RC09	0790051R	RES.CHIP 1/16W 10K OHM
R537	0790064R	RES.CHIP 1/16W 100K OHM	RC10	0790056R	RES.CHIP 1/16W 27K OHM
R538	0790037R	RES.CHIP 1/16W 1.0K OHM	RC11	0790051R	RES.CHIP 1/16W 10K OHM
R539	0790037R	RES.CHIP 1/16W 1.0K OHM	RC12	0790024R	RES.CHIP 1/16W 100 OHM
R540	0790063R	RES.CHIP 1/16W 82K OHM	RC13	0790053R	RES.CHIP 1/16W 15K OHM
R541	0790063R	RES.CHIP 1/16W 82K OHM	RC14	0790037R	RES.CHIP 1/16W 1.0K OHM
R542	0790051R	RES.CHIP 1/16W 10K OHM	RC15	0790037R	RES.CHIP 1/16W 1.0K OHM
R543	0790051R	RES.CHIP 1/16W 10K OHM	RC16	0790037R	RES.CHIP 1/16W 1.0K OHM
R545	0790028R	RES.CHIP 1/16W 220 OHM	RC17	0790052R	RES.CHIP 1/16W 12K OHM
R546	0790028R	RES.CHIP 1/16W 220 OHM	RC18	0790052R	RES.CHIP 1/16W 12K OHM
R547	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC19	0790051R	RES.CHIP 1/16W 10K OHM
R548	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC20	0790048R	RES.CHIP 1/16W 6.8K OHM
R550	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC21	0790059R	RES.CHIP 1/16W 47K OHM
R551	AQ00225R	RES.CHIP 1/16W 15K OHM TAPE	RC22	0790064R	RES.CHIP 1/16W 100K OHM
R552	AQ00225R	RES.CHIP 1/16W 15K OHM TAPE	RC23	0790051R	RES.CHIP 1/16W 10K OHM
R553	0790034R	RES.CHIP 1/16W 560 OHM	RC24	0790059R	RES.CHIP 1/16W 47K OHM
R554	0790059R	RES.CHIP 1/16W 47K OHM	RC25	0790037R	RES.CHIP 1/16W 1.0K OHM
R555	0790059R	RES.CHIP 1/16W 47K OHM	RC26	0790048R	RES.CHIP 1/16W 6.8K OHM
R556	0790051R	RES.CHIP 1/16W 10K OHM	RC27	0790037R	RES.CHIP 1/16W 1.0K OHM
R557	0790059R	RES.CHIP 1/16W 47K OHM	RC28	0790051R	RES.CHIP 1/16W 10K OHM
R558	0790051R	RES.CHIP 1/16W 10K OHM	RC29	0790054R	RES.CHIP 1/16W 18K OHM
R590	AQ00169R	RES.CHIP 1/16W 120 OHM TAPE	RC30	0790055R	RES.CHIP 1/16W 22K OHM
R592	0790037R	RES.CHIP 1/16W 1.0K OHM	RC31	0790047R	RES.CHIP 1/16W 5.6K OHM
RA01	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC32	0790057R	RES.CHIP 1/16W 33K OHM
RA02	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC33	0790037R	RES.CHIP 1/16W 1.0K OHM
RA15	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC34	0790061R	RES.CHIP 1/16W 56K OHM
RA16	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC35	0790051R	RES.CHIP 1/16W 10K OHM
RA21	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC36	0790024R	RES.CHIP 1/16W 100 OHM
RA22	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC37	0790053R	RES.CHIP 1/16W 15K OHM
RA23	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC38	0790037R	RES.CHIP 1/16W 1.0K OHM
RA24	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RC39	0790024R	RES.CHIP 1/16W 100 OHM
RA27	0790058R	RES.CHIP 1/16W 39K OHM	RC40	0790047R	RES.CHIP 1/16W 5.6K OHM
RA28	0790052R	RES.CHIP 1/16W 12K OHM	RC41	0790051R	RES.CHIP 1/16W 10K OHM
RA29	0790024R	RES.CHIP 1/16W 100 OHM	RC42	0790046R	RES.CHIP 1/16W 4.7K OHM
RA30	0790037R	RES.CHIP 1/16W 1.0K OHM	RC43	0790044R	RES.CHIP 1/16W 3.3K OHM
RA31	AQ00181R	RES.CHIP 1/16W 330 OHM TAPE	RC44	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RA32	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	RC45	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RA33	0790058R	RES.CHIP 1/16W 39K OHM	RC46	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RA34	0790052R	RES.CHIP 1/16W 12K OHM	RC47	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RA35	0790024R	RES.CHIP 1/16W 100 OHM	RC50	0790041R	RES.CHIP 1/16W 1.8K OHM
RA36	0790037R	RES.CHIP 1/16W 1.0K OHM	RC51	0790043R	RES.CHIP 1/16W 2.7K OHM
RA37	AQ00181R	RES.CHIP 1/16W 330 OHM TAPE	RC54	0790043R	RES.CHIP 1/16W 2.7K OHM
RA38	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	RC55	0790043R	RES.CHIP 1/16W 2.7K OHM
RA49	AQ00201R	RES.CHIP 1/16W 1.8K OHM TAPE	RC56	0790033R	RES.CHIP 1/16W 470 OHM
RA50	AQ00201R	RES.CHIP 1/16W 1.8K OHM TAPE	RC57	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
RC58	0790038R	RES.CHIP 1/16W 1.2K OHM	RS40	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RC59	0790037R	RES.CHIP 1/16W 1.0K OHM	RS42	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RC60	0790037R	RES.CHIP 1/16W 1.0K OHM	RS43	0790058R	RES.CHIP 1/16W 39K OHM
RC61	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RS46	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RC62	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RS47	0790051R	RES.CHIP 1/16W 10K OHM
RC64	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RS50	0790024R	RES.CHIP 1/16W 100 OHM
RC65	0790055R	RES.CHIP 1/16W 22K OHM	RS51	0790024R	RES.CHIP 1/16W 100 OHM
RC66	0790059R	RES.CHIP 1/16W 47K OHM	RS52	0790051R	RES.CHIP 1/16W 10K OHM
RC67	0790037R	RES.CHIP 1/16W 1.0K OHM	RS53	0790024R	RES.CHIP 1/16W 100 OHM
RC80	0790051R	RES.CHIP 1/16W 10K OHM	RS54	0790024R	RES.CHIP 1/16W 100 OHM
RC81	0790059R	RES.CHIP 1/16W 47K OHM	RS55	0790051R	RES.CHIP 1/16W 10K OHM
RC82	0790046R	RES.CHIP 1/16W 4.7K OHM	RS56	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ00	0790037R	RES.CHIP 1/16W 1.0K OHM	RS57	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ01	0790051R	RES.CHIP 1/16W 10K OHM	RS58	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ02	0790037R	RES.CHIP 1/16W 1.0K OHM	RS59	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ03	0790037R	RES.CHIP 1/16W 1.0K OHM	RS60	0790046R	RES.CHIP 1/16W 4.7K OHM
RJ08	0790042R	RES.CHIP 1/16W 2.2K OHM	RS63	0790051R	RES.CHIP 1/16W 10K OHM
RJ11	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RS64	0790051R	RES.CHIP 1/16W 10K OHM
RJ12	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RS65	0790038R	RES.CHIP 1/16W 1.2K OHM
RJ14	0790042R	RES.CHIP 1/16W 2.2K OHM	RS66	0790051R	RES.CHIP 1/16W 10K OHM
RJ15	0790039R	RES.CHIP 1/16W 1.5K OHM	RS67	0790039R	RES.CHIP 1/16W 1.5K OHM
RJ16	0790037R	RES.CHIP 1/16W 1.0K OHM	RS68	0790051R	RES.CHIP 1/16W 10K OHM
RJ17	0790051R	RES.CHIP 1/16W 10K OHM	RS69	0790051R	RES.CHIP 1/16W 10K OHM
RJ18	0790048R	RES.CHIP 1/16W 6.8K OHM	RS70	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ19	0790059R	RES.CHIP 1/16W 47K OHM	RS72	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ20	0790059R	RES.CHIP 1/16W 47K OHM	RS73	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ21	0790059R	RES.CHIP 1/16W 47K OHM	RS74	0790024R	RES.CHIP 1/16W 100 OHM
RJ22	0790034R	RES.CHIP 1/16W 560 OHM	RS75	0790024R	RES.CHIP 1/16W 100 OHM
RJ23	0790051R	RES.CHIP 1/16W 10K OHM	RS76	0790059R	RES.CHIP 1/16W 47K OHM
RJ24	0790059R	RES.CHIP 1/16W 47K OHM	RS77	0790059R	RES.CHIP 1/16W 47K OHM
RJ25	0790051R	RES.CHIP 1/16W 10K OHM	RS78	0790059R	RES.CHIP 1/16W 47K OHM
RJ26	0195250R	RES 2125 CHIP JAMPER WIRE	RS79	0790059R	RES.CHIP 1/16W 47K OHM
RJ27	0195250R	RES 2125 CHIP JAMPER WIRE	RS81	0790055R	RES.CHIP 1/16W 22K OHM
RJ28	0195250R	RES 2125 CHIP JAMPER WIRE	RS83	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ29	0790037R	RES.CHIP 1/16W 1.0K OHM	RS84	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ30	0790051R	RES.CHIP 1/16W 10K OHM	RS85	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ31	0790037R	RES.CHIP 1/16W 1.0K OHM	RS86	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ32	0790051R	RES.CHIP 1/16W 10K OHM	RS87	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ33	0790037R	RES.CHIP 1/16W 1.0K OHM	RS88	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ34	0790037R	RES.CHIP 1/16W 1.0K OHM	RS89	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ35	0790037R	RES.CHIP 1/16W 1.0K OHM	RS90	0790037R	RES.CHIP 1/16W 1.0K OHM
RJ36	0790037R	RES.CHIP 1/16W 1.0K OHM	RS91	0790024R	RES.CHIP 1/16W 100 OHM
RJ37	0790037R	RES.CHIP 1/16W 1.0K OHM	RS92	0790024R	RES.CHIP 1/16W 100 OHM
RJ38	0790037R	RES.CHIP 1/16W 1.0K OHM	RS94	0790024R	RES.CHIP 1/16W 100 OHM
RJ39	0195900R	RES 2125 CHIP 1/16W 1.0K-J TAPE	RS96	0790055R	RES.CHIP 1/16W 22K OHM
RJ40	0790037R	RES.CHIP 1/16W 1.0K OHM	RS97	0790064R	RES.CHIP 1/16W 100K OHM
RJ41	0195250R	RES 2125 CHIP JAMPER WIRE	RS98	0790055R	RES.CHIP 1/16W 22K OHM
RS01	0790037R	RES.CHIP 1/16W 1.0K OHM	RSA2	0790024R	RES.CHIP 1/16W 100 OHM
RS02	0790037R	RES.CHIP 1/16W 1.0K OHM	RSA3	0790024R	RES.CHIP 1/16W 100 OHM
RS03	0790037R	RES.CHIP 1/16W 1.0K OHM	RSA4	0790024R	RES.CHIP 1/16W 100 OHM
RS06	0195250R	RES 2125 CHIP JAMPER WIRE	RSA5	0790024R	RES.CHIP 1/16W 100 OHM
RS07	0195250R	RES 2125 CHIP JAMPER WIRE	RSA6	0790024R	RES.CHIP 1/16W 100 OHM
RS08	0195875R	RES 2125 CHIP 1/16W 100-J TAPE	RSA7	0790051R	RES.CHIP 1/16W 10K OHM
RS09	0790037R	RES.CHIP 1/16W 1.0K OHM	RSA8	0790051R	RES.CHIP 1/16W 10K OHM
RS10	0195875R	RES 2125 CHIP 1/16W 100-J TAPE	RSA9	0790051R	RES.CHIP 1/16W 10K OHM
RS11	0790037R	RES.CHIP 1/16W 1.0K OHM	RT01	0790024R	RES.CHIP 1/16W 100 OHM
RS12	0790037R	RES.CHIP 1/16W 1.0K OHM	RT02	0790024R	RES.CHIP 1/16W 100 OHM
RS13	0195875R	RES 2125 CHIP 1/16W 100-J TAPE	RT03	0790024R	RES.CHIP 1/16W 100 OHM
RS14	0195875R	RES 2125 CHIP 1/16W 100-J TAPE	RT04	0790024R	RES.CHIP 1/16W 100 OHM
RS15	0195250R	RES 2125 CHIP JAMPER WIRE	RT05	0790024R	RES.CHIP 1/16W 100 OHM
RS16	0195250R	RES 2125 CHIP JAMPER WIRE	RT06	0790024R	RES.CHIP 1/16W 100 OHM
RS17	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RT07	0790024R	RES.CHIP 1/16W 100 OHM
RS18	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RT08	0790024R	RES.CHIP 1/16W 100 OHM
RS19	0195875R	RES 2125 CHIP 1/16W 100-J TAPE	RT09	0790051R	RES.CHIP 1/16W 10K OHM
RS20	0790064R	RES.CHIP 1/16W 100K OHM	RT10	0790037R	RES.CHIP 1/16W 1.0K OHM
RS21	0790064R	RES.CHIP 1/16W 100K OHM	RT11	0790037R	RES.CHIP 1/16W 1.0K OHM
RS22	0790037R	RES.CHIP 1/16W 1.0K OHM	RT12	0790037R	RES.CHIP 1/16W 1.0K OHM
RS23	0790037R	RES.CHIP 1/16W 1.0K OHM	RT13	0790037R	RES.CHIP 1/16W 1.0K OHM
RS25	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RT14	0790037R	RES.CHIP 1/16W 1.0K OHM
RS26	0790037R	RES.CHIP 1/16W 1.0K OHM	RT15	0790037R	RES.CHIP 1/16W 1.0K OHM
RS29	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RT16	0790037R	RES.CHIP 1/16W 1.0K OHM
RS30	0790037R	RES.CHIP 1/16W 1.0K OHM	RT17	0790037R	RES.CHIP 1/16W 1.0K OHM
RS31	0790037R	RES.CHIP 1/16W 1.0K OHM	RT18	0790037R	RES.CHIP 1/16W 1.0K OHM
RS32	0790037R	RES.CHIP 1/16W 1.0K OHM	RT19	0790037R	RES.CHIP 1/16W 1.0K OHM
RS35	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RT20	0790037R	RES.CHIP 1/16W 1.0K OHM

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
RT21	0790037R	RES.CHIP 1/16W 1.0K OHM	RX59	0790029R	RES.CHIP 1/16W 270 OHM
RT22	0790037R	RES.CHIP 1/16W 1.0K OHM	RX60	0790037R	RES.CHIP 1/16W 1.0K OHM
RT23	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX61	0790037R	RES.CHIP 1/16W 1.0K OHM
RT24	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX62	0790037R	RES.CHIP 1/16W 1.0K OHM
RT25	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX63	0790037R	RES.CHIP 1/16W 1.0K OHM
RT26	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX64	0790043R	RES.CHIP 1/16W 2.7K OHM
RT27	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX66	0790042R	RES.CHIP 1/16W 2.2K OHM
RT28	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX67	0790037R	RES.CHIP 1/16W 1.0K OHM
RT29	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX68	0790051R	RES.CHIP 1/16W 10K OHM
RT30	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX69	0790046R	RES.CHIP 1/16W 4.7K OHM
RT31	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX76	0790042R	RES.CHIP 1/16W 2.2K OHM
RT32	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX77	0790042R	RES.CHIP 1/16W 2.2K OHM
RT33	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX81	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RT34	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	RX82	0790024R	RES.CHIP 1/16W 100 OHM
RT35	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX83	0790024R	RES.CHIP 1/16W 100 OHM
RT36	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX90	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RT37	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX91	0790063R	RES.CHIP 1/16W 82K OHM
RT38	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX92	0790056R	RES.CHIP 1/16W 27K OHM
RT39	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX93	0790051R	RES.CHIP 1/16W 10K OHM
RT40	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX94	0790051R	RES.CHIP 1/16W 10K OHM
RT41	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX95	0790044R	RES.CHIP 1/16W 3.3K OHM
RT42	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX96	0790044R	RES.CHIP 1/16W 3.3K OHM
RT43	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX97	0790024R	RES.CHIP 1/16W 100 OHM
RT44	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX98	0790021R	RES.CHIP 1/16W 56 OHM
RT45	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RX99	0790021R	RES.CHIP 1/16W 56 OHM
RT46	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	RY02	AT03864M	330OHM 1/2W RDS50 CARBON FILM RESISTOR
RT47	0790024R	RES.CHIP 1/16W 100 OHM	RY03	0790031R	RES.CHIP 1/16W 330 OHM
RT48	0790024R	RES.CHIP 1/16W 100 OHM	RY04	0790059R	RES.CHIP 1/16W 47K OHM
RT49	0790024R	RES.CHIP 1/16W 100 OHM	RY05	0790051R	RES.CHIP 1/16W 10K OHM
RT50	0790024R	RES.CHIP 1/16W 100 OHM	RY06	0790024R	RES.CHIP 1/16W 100 OHM
RT51	0790024R	RES.CHIP 1/16W 100 OHM	RY07	0790031R	RES.CHIP 1/16W 330 OHM
RT52	0790024R	RES.CHIP 1/16W 100 OHM	RY08	0790024R	RES.CHIP 1/16W 100 OHM
RT61	0195250R	RES 2125 CHIP JAMPER WIRE	RY09	0790033R	RES.CHIP 1/16W 470 OHM
RT62	0195250R	RES 2125 CHIP JAMPER WIRE	RY10	0790024R	RES.CHIP 1/16W 100 OHM
RX09	0790037R	RES.CHIP 1/16W 1.0K OHM	RY11	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR
RX10	0790037R	RES.CHIP 1/16W 1.0K OHM	RY12	0790024R	RES.CHIP 1/16W 100 OHM
RX13	0790049R	RES.CHIP 1/16W 8.2K OHM	RY13	0790062R	RES.CHIP 1/16W 68K OHM
RX15	0790039R	RES.CHIP 1/16W 1.5K OHM	RY14	0790043R	RES.CHIP 1/16W 2.7K OHM
RX16	0790037R	RES.CHIP 1/16W 1.0K OHM	RY19	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RX17	0790039R	RES.CHIP 1/16W 1.5K OHM	RY24	0790021R	RES.CHIP 1/16W 56 OHM
RX18	0790037R	RES.CHIP 1/16W 1.0K OHM	RY25	0790052R	RES.CHIP 1/16W 12K OHM
RX20	0790051R	RES.CHIP 1/16W 10K OHM	RY26	0790057R	RES.CHIP 1/16W 33K OHM
RX22	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY27	0790025R	RES.CHIP 1/16W 120 OHM
RX23	0790024R	RES.CHIP 1/16W 100 OHM	RY28	0790024R	RES.CHIP 1/16W 100 OHM
RX24	0790024R	RES.CHIP 1/16W 100 OHM	RY29	0790021R	RES.CHIP 1/16W 56 OHM
RX25	0790024R	RES.CHIP 1/16W 100 OHM	RY34	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RX26	0790045R	RES.CHIP 1/16W 3.9K OHM	RY39	0790021R	RES.CHIP 1/16W 56 OHM
RX27	0790033R	RES.CHIP 1/16W 470 OHM	RY40	0790052R	RES.CHIP 1/16W 12K OHM
RX28	0790046R	RES.CHIP 1/16W 4.7K OHM	RY41	0790057R	RES.CHIP 1/16W 33K OHM
RX29	0790042R	RES.CHIP 1/16W 2.2K OHM	RY42	0790025R	RES.CHIP 1/16W 120 OHM
RX30	0790021R	RES.CHIP 1/16W 56 OHM	RY43	0790024R	RES.CHIP 1/16W 100 OHM
RX31	0790021R	RES.CHIP 1/16W 56 OHM	RY44	0790021R	RES.CHIP 1/16W 56 OHM
RX32	0790021R	RES.CHIP 1/16W 56 OHM	RY49	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RX33	0790036R	RES.CHIP 1/16W 820 OHM	RY54	0790021R	RES.CHIP 1/16W 56 OHM
RX34	0790036R	RES.CHIP 1/16W 820 OHM	RY55	0790052R	RES.CHIP 1/16W 12K OHM
RX35	0790036R	RES.CHIP 1/16W 820 OHM	RY56	0790057R	RES.CHIP 1/16W 33K OHM
RX36	0790076R	RES.CHIP 1/16W 820K OHM	RY57	0790025R	RES.CHIP 1/16W 120 OHM
RX38	0790024R	RES.CHIP 1/16W 100 OHM	RY58	0790024R	RES.CHIP 1/16W 100 OHM
RX40	0790051R	RES.CHIP 1/16W 10K OHM	RY59	0790021R	RES.CHIP 1/16W 56 OHM
RX41	0790038R	RES.CHIP 1/16W 1.2K OHM	RY60	0790037R	RES.CHIP 1/16W 1.0K OHM
RX42	0790045R	RES.CHIP 1/16W 3.9K OHM	RY61	AQ00178R	RES.CHIP 1/16W 270 OHM TAPE
RX43	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY62	AQ00178R	RES.CHIP 1/16W 270 OHM TAPE
RX44	0790037R	RES.CHIP 1/16W 1.0K OHM	RY63	AQ00178R	RES.CHIP 1/16W 270 OHM TAPE
RX45	0790056R	RES.CHIP 1/16W 27K OHM	RY64	0790037R	RES.CHIP 1/16W 1.0K OHM
RX46	0790037R	RES.CHIP 1/16W 1.0K OHM	RY65	0790037R	RES.CHIP 1/16W 1.0K OHM
RX47	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	RY82	0790024R	RES.CHIP 1/16W 100 OHM
RX48	AQ00161R	RES.CHIP 1/16W 56 OHM TAPE	RY83	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RX49	0790024R	RES.CHIP 1/16W 100 OHM			
RX50	0790024R	RES.CHIP 1/16W 100 OHM			SWITCHES
RX52	0790037R	RES.CHIP 1/16W 1.0K OHM	SC01	FE00062R	PUSH SWITCH 4H4.75L
RX54	0790043R	RES.CHIP 1/16W 2.7K OHM			
RX55	0790043R	RES.CHIP 1/16W 2.7K OHM			CRYSTALS, FILTERS
RX56	0790043R	RES.CHIP 1/16W 2.7K OHM	H301	BK00213R	CERAMIC FILTER LFA20-2A1E473MT
RX57	0790028R	RES.CHIP 1/16W 220 OHM	H302	BK00213R	CERAMIC FILTER LFA20-2A1E473MT
RX58	0790028R	RES.CHIP 1/16W 220 OHM	H303	BK10324R	CERAMIC FILTER NFM2012P13C105BT1

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
H304	BK10323R	CERAMIC FILTER NFM2012P13C105F	C952	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
H305	BK10323R	CERAMIC FILTER NFM2012P13C105F	C953	0880181R	CAP.METAL-POLY.FLM 0.01UF 50V
HS16	BE00412R	3218 CHIP LC FILTER	C957	0800326R	CAP.-ELECTRO. 100UF-M 16V
X002	BL00972R	10MHzRESONATOR	C958	0243512R	CAP.-CERAMIC 820PF-K 500V TAPE
XS01	BL00781R	OSC200X12TSMD-49/20	C962	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
XX01	2168771	VFL-CSB503F30	C964	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
			C965	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
		CONNECTORS, JACKS	C980	0880194R	CAP.-POLYESTER 0.1UF-J 50V
J401	ES00581	JACK LAF5120-0403F	C981	0800319R	CAP.-ELECTRO. 47UF-M 35V
J402	ES00351	JACK LAP5120-0101F US9P Y/C3P	C982	0880057R	CAP.-POLYESTER 0.1UF-KEB 50V
PADJ	ED00385	PLUG 6P LOCK 2.5MM JST			
PAN2	2902263	PLUG PIN SUB MINI 4P			DIODES
PCJG	2959055	CONNECTOR-6P(PH)	D901 ⚠	CH00051	DIODE SD-S1WB(A)60B (600V)
PCT	2902272	PLUG PIN SUB MINI 12P	D902 ⚠	2342061	DIODE D3SB(A)60.
PDT2	ED01472U	PLUG 11BP1R2HUTWGP-A1	D903	CH02001M	DIODE 1SR139-400
PDT3	ED01472U	PLUG 11BP1R2HUTWGP-A1	D906	CH02011M	DIODE 1SR153-400
PDT4	ED01471U	PLUG 07BP1R2HUTWGP-A1	D907	2348113M	DIO-MTZ-J5.6CTA
PFH1	2959059	PLUG PH PIN POST 10P	D910	2334304M	ZENER RD30E (B3 T2/TP/TA) SI 5MA 30.51V
PFH2	2902261	PLUG PIN SUB MINI 2P	D911	CH02011M	DIODE 1SR153-400
PFT1	ED00393	PLUG 13P LOCK 2.5MM JST	D912	CH02011M	DIODE 1SR153-400
PFT2	ED00391	PLUG 11P WITH LOCK	D913	CH02011M	DIODE 1SR153-400
PINT	2902261	PLUG PIN SUB MINI 2P	D914	2348123M	ZENER MTZJ-6.2C TA
PPT1	ED03203	6P 2.5MM PITCH CONNECTOR TAC-L06X-A3	D915	2348163M	ZENER MTZJ-9.1C TA
PPT2	ED04332U	2.54MM PITCH 20P B TO B CONNEC	D940	CH02001M	DIODE 1SR139-400
PPT3	ED04332U	2.54MM PITCH 20P B TO B CONNEC	D941	CH02001M	DIODE 1SR139-400
PSET	ED00389	PLUG 10P WITH LOCK	D942	CH02001M	DIODE 1SR139-400
PSP	ED00385	PLUG 6P LOCK 2.5MM JST	D943	CH02001M	DIODE 1SR139-400
PST	ED04522U	2.54MM PITCH 120P B TO B CONNE	D944	2344041M	DIODE 1SS254TA/1SS270TA
			D945	2344041M	DIODE 1SS254TA/1SS270TA
		MISCELLANEOUS	D946	2344041M	DIODE 1SS254TA/1SS270TA
U301	HC00642	ENGE6403DF	D947	2344041M	DIODE 1SS254TA/1SS270TA
			D948	2344041M	DIODE 1SS254TA/1SS270TA
ZA02	9414017W	SILICONE COMPOUND(G-746)	D949	CH02011M	DIODE 1SR153-400
NA02	MA01413	AUDIO HEAT SINK DP3K	D950	2344041M	DIODE 1SS254TA/1SS270TA
NA02N	MJ03595	SCRW M3M_3*12PN+SM Unknown	D951	2344041M	DIODE 1SS254TA/1SS270TA
NC01	MA01272	HEAT SINK SPTE H=25	D954	CH02751	FMN-G12S
NC01N	MJ03595	SCRW M3M_3*12PN+SM Unknown	D955	CH03061	DIODE FME-220A
NCD1	MD09431	CONVERGENSE SHIELD CASE DP5X	D958	2344041M	DIODE 1SS254TA/1SS270TA
NCD2	MD09441	CONVERGENCE SHIELD COVER DP5X	D959	2344041M	DIODE 1SS254TA/1SS270TA
NCD3	MD09441	CONVERGENCE SHIELD COVER DP5X	D960	2337951S	DIODE RU4Z(LF015-302)
KA01	2784381M	0.60MM TAPED JUMP.WIRE	D962	2348132M	ZENER MTZ-J6.8BTA
			D988	2348212M	ZENER DIODE MTZ-J15B
		POWER PWB	D990	2344041M	DIODE 1SS254TA/1SS270TA
			D991	2343076M	HZ6B3LTA
		CAPACITORS			
C901 ⚠	AN02085S	PLASTIC FILM CAP.CQ-224K251PVS-LE			FUSES, PROTECTORS
C902 ⚠	AN10501S	METALLIZ POLYES(0.1UF 250V) A	E940 ⚠	AZ00919M	PROTECTOR 0491007.NRT1-[JA]
C903 ⚠	AJ00183F	CAP. CERAMIC CD10-E2GA152MYNS	E941 ⚠	AZ00918M	PROTECTOR 0491005.NRT1-[JA]
C904 ⚠	AJ00183F	CAP. CERAMIC CD10-E2GA152MYNS	F901 ⚠	FN00476	FUSE 51MS 080 L-U
C905 ⚠	AJ00173F	CAP.CERAMIC CD85-B2GA221KYNS	F902 ⚠	FN00464	FUSE 51MS 010 L-U
C906 ⚠	AJ00182F	CAP. CERAMIC CD85-E2GA102MYNS	F903 ⚠	FN00472	FUSE 51MS 040 L-U
C907 ⚠	AJ00182F	CAP. CERAMIC CD85-E2GA102MYNS	F904 ⚠	AT05789	RES.WIRE WOUND 5W 2.2OHM CEMEN
C908	AL00029R	CAP.-ELECTORO. 22UF-M 250V	FE91	2721351	FUSE HOLDER
C909	AJ01014R	CAP.CERAMIC 100PF 2KV CC45SL	FE92	2721351	FUSE HOLDER
C911	0890085R	CAP.-CERAMIC 680PF-K 50V	FE93	2721351	FUSE HOLDER
C912	0800303R	CAP.-ELECTRO. 22UF-M 50V			
C915	AL02761	CAP.ELEC. 470UF 200V MXC SERIES			INTEGRATED CIRCUITS (IC's)
C916	0800303R	CAP.-ELECTRO. 22UF-M 50V	I901 ⚠	CP08515F	ANALOG MONOLITHIC IC STR-A6159
C917	0800303R	CAP.-ELECTRO. 22UF-M 50V	I902 ⚠	CP08533	STR-6737M(LF1901)
C918	0880194R	CAP.-POLYESTER 0.1UF-J 50V	I903 ⚠	CP07851	MONO IC TLP421
C920	0299610F	CAP.-POLYPRO.FILM 0.001UF 630V	I904 ⚠	CP07851	MONO IC TLP421
C925	0880194R	CAP.-POLYESTER 0.1UF-J 50V	I905 ⚠	CP07851	MONO IC TLP421
C926	0890083R	CAP.-CERAMIC 470PF-K 50V	I906 ⚠	CP07851	MONO IC TLP421
C927	0890083R	CAP.-CERAMIC 470PF-K 50V	I941 ⚠	CP08351R	IC NJM2380L(T1)
C929	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	I942	CP08551U	S7805PI
C940	0800352R	CAP.-ELECTRO.470UF 10V			
C942	0800326R	CAP.-ELECTRO. 100UF-M 16V			JUMPER WIRES
C943	0800319R	CAP.-ELECTRO. 47UF-M 35V	K001	2784381M	0.60MM TAPED JUMP.WIRE
C944	0800319R	CAP.-ELECTRO. 47UF-M 35V	K002	2784381M	0.60MM TAPED JUMP.WIRE
C945	AL01865R	470UF 35V ALUMINIUM ELECTROLYTIC CAP	K003	2784381M	0.60MM TAPED JUMP.WIRE
C947	AL01852F	3300UF 16V ALUMINIUM ELECTROLYTIC CAP	K004	2784381M	0.60MM TAPED JUMP.WIRE
C948	AL01845F	4700UF 10V ALUMINIUM ELECTROLYTIC CAP	K005	2784381M	0.60MM TAPED JUMP.WIRE
C949	AL01845F	4700UF 10V ALUMINIUM ELECTROLYTIC CAP	K006	2784381M	0.60MM TAPED JUMP.WIRE
C950	0880194R	CAP.-POLYESTER 0.1UF-J 50V	K007	2784381M	0.60MM TAPED JUMP.WIRE
C951	AL01107S	CAP.ELECTROLYTIC 3300UF-M(YXF)6.3V	K008	2784381M	0.60MM TAPED JUMP.WIRE

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
K009	2784381M	0.60MM TAPED JUMP.WIRE	R920	0700027M	RES.-CARBON FLM 1/16W 100-JB
K010	2784381M	0.60MM TAPED JUMP.WIRE	R921	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K011	2784381M	0.60MM TAPED JUMP.WIRE	R922	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K012	2784381M	0.60MM TAPED JUMP.WIRE	R923	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K013	2784381M	0.60MM TAPED JUMP.WIRE	R924	AT04428M	ASR 12 TB 390KOHM J
K014	2784381M	0.60MM TAPED JUMP.WIRE	R925	0700057M	RES.-CARBON FLM 1/16W 18K-JB
K015	2784381M	0.60MM TAPED JUMP.WIRE	R926	0700054M	RES.-CARBON FLM 1/16W 10K-JB
K016	2784381M	0.60MM TAPED JUMP.WIRE	R927	0700054M	RES.-CARBON FLM 1/16W 10K-JB
K017	2784381M	0.60MM TAPED JUMP.WIRE	R940	0700063M	RES.-CARBON FLM 1/16W 47K-JB
K018	2784381M	0.60MM TAPED JUMP.WIRE	R941	0700063M	RES.-CARBON FLM 1/16W 47K-JB
K019	2784381M	0.60MM TAPED JUMP.WIRE	R942	0700063M	RES.-CARBON FLM 1/16W 47K-JB
K020	2784381M	0.60MM TAPED JUMP.WIRE	R943	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K021	2784381M	0.60MM TAPED JUMP.WIRE	R944	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K022	2784381M	0.60MM TAPED JUMP.WIRE	R945	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K023	2784381M	0.60MM TAPED JUMP.WIRE	R946	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K024	2784381M	0.60MM TAPED JUMP.WIRE	R947	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K025	2784381M	0.60MM TAPED JUMP.WIRE	R948	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K026	2784381M	0.60MM TAPED JUMP.WIRE	R949	0700054M	RES.-CARBON FLM 1/16W 10K-JB
K027	2784381M	0.60MM TAPED JUMP.WIRE	R950	0700037M	RES.-CARBON FLM 1/16W 560-JB
K028	2784381M	0.60MM TAPED JUMP.WIRE	R957	0700023M	RES.-CARBON FLM 1/16W 47-J
K029	2784381M	0.60MM TAPED JUMP.WIRE	R958	0700031M	RES.-CARBON FLM 1/16W 180-JB
K030	2784381M	0.60MM TAPED JUMP.WIRE	R961	0119617M	RES.-MTL FLM 1/8W 2.7K-FB
K031	2784381M	0.60MM TAPED JUMP.WIRE	R962	0119597M	RES.-MTL FLM 1/8W 390-FB
K032	2784381M	0.60MM TAPED JUMP.WIRE	R963	0700039M	RES.-CARBON FLM 1/16W 820-JB
K033	2784381M	0.60MM TAPED JUMP.WIRE	R964	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
K034	2784381M	0.60MM TAPED JUMP.WIRE	R965	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K035	2784381M	0.60MM TAPED JUMP.WIRE	R966	0119615M	RES.-MTL FLM 1/8W 2.2K-FB
K036	2784381M	0.60MM TAPED JUMP.WIRE	R980	0700054M	RES.-CARBON FLM 1/16W 10K-JB
K037	2784381M	0.60MM TAPED JUMP.WIRE	R981 ⚠	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
K038	2784381M	0.60MM TAPED JUMP.WIRE	R982 ⚠	0700036M	RES.-CARBON FLM 1/16W 470-JB
K039	2784381M	0.60MM TAPED JUMP.WIRE	R983	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
K040	2784381M	0.60MM TAPED JUMP.WIRE	R984	0700027M	RES.-CARBON FLM 1/16W 100-JB
K041	2784381M	0.60MM TAPED JUMP.WIRE			
K042	2784381M	0.60MM TAPED JUMP.WIRE			RELAYS, SWITCHES
K043	2784381M	0.60MM TAPED JUMP.WIRE	S901 ⚠	FJ00311	RELAY DLS5D1-0(M)0.25W
KK01	2784381M	0.60MM TAPED JUMP.WIRE	S902 ⚠	FJ00311	RELAY DLS5D1-0(M)0.25W
KK02	2784381M	0.60MM TAPED JUMP.WIRE	S903 ⚠	FJ00311	RELAY DLS5D1-0(M)0.25W
KKG1	2784381M	0.60MM TAPED JUMP.WIRE	S904 ⚠	FJ00311	RELAY DLS5D1-0(M)0.25W
KKG2	2784381M	0.60MM TAPED JUMP.WIRE			
KKG3	2784381M	0.60MM TAPED JUMP.WIRE			TRANSFORMERS
KKX1	2784381M	0.60MM TAPED JUMP.WIRE	T901 ⚠	BT02272	SWITCHING TRANSFORMER EI16F05J
			T902 ⚠	BT02321	PT-EE3542F11U-DP5X-SIG
		COILS			
L901 ⚠	BZ05691	LINE FILTER 7.5MH			FILTERS
L902 ⚠	BZ06201	LINE FILTER 1.8MH	X901 ⚠	AJ00835	ERZV10D471
L905	BH01342M	COIL FERRITE BEADS 2.3UH			
L907	BH01341M	COIL FERRITE BEADS 0.8UH			EYELETS
L908	BH01341M	COIL FERRITE BEADS 0.8UH	Z101	EU01122	EYELET CG-10002 DIA 2.0
L940	BH01941	7313 TYPE CHOKE COIL 4.7UH	Z102	EU01122	EYELET CG-10002 DIA 2.0
L941	BH01342M	COIL FERRITE BEADS 2.3UH	Z103	EU01122	EYELET CG-10002 DIA 2.0
			Z104	EU01122	EYELET CG-10002 DIA 2.0
		TRANSISTORS	Z111	EU01122	EYELET CG-10002 DIA 2.0
Q901	CF02981R	2SC5343YT_PF	Z112	EU01122	EYELET CG-10002 DIA 2.0
Q942	CF02981R	2SC5343YT_PF	Z113	EU01122	EYELET CG-10002 DIA 2.0
Q943	CF02981R	2SC5343YT_PF	Z114	EU01122	EYELET CG-10002 DIA 2.0
Q944	CF02981R	2SC5343YT_PF	Z115	EU01122	EYELET CG-10002 DIA 2.0
Q980 ⚠	CF02981R	2SC5343YT_PF	Z116	EU01122	EYELET CG-10002 DIA 2.0
Q981	CF02991R	2SA1979YT_PF	Z117	EU01122	EYELET CG-10002 DIA 2.0
Q982	CF02962F	TRS.TF561S-A-LF610	Z118	EU01122	EYELET CG-10002 DIA 2.0
			Z119	EU01122	EYELET CG-10002 DIA 2.0
		RESISTORS	Z120	EU01122	EYELET CG-10002 DIA 2.0
R901 ⚠	AT03672M	RES.MTL GRAZD FLM 1/2W 3.3M	Z121	EU01122	EYELET CG-10002 DIA 2.0
R902 ⚠	AT03676M	RES.MTL GRAZD FLM 1/2W 6.8M	Z122	EU01122	EYELET CG-10002 DIA 2.0
R903	AT04421M	ASR 12 TB 100KOHM J	Z123	EU01122	EYELET CG-10002 DIA 2.0
R906	AT03848M	22.0OHM 1/2W RDS50 CARBON FILM RESISTOR	Z124	EU01122	EYELET CG-10002 DIA 2.0
R908	AT03222S	METAL OX. 18.0OHM 1W	Z125	EU01122	EYELET CG-10002 DIA 2.0
R909	AT03224S	METAL OX. 22.0OHM 1W	Z126	EU01122	EYELET CG-10002 DIA 2.0
R910	AT03224S	METAL OX. 22.0OHM 1W	Z127	EU01122	EYELET CG-10002 DIA 2.0
R911	AT03665M	RES.MTL GRAZD FLM 1/2W 1M	Z128	EU01122	EYELET CG-10002 DIA 2.0
R913	AT03311S	METAL OX. 39K OHM 1W	Z129	EU01122	EYELET CG-10002 DIA 2.0
R914	AT03311S	METAL OX. 39K OHM 1W	Z130	EU01122	EYELET CG-10002 DIA 2.0
R915	AT03848M	22.0OHM 1/2W RDS50 CARBON FILM RESISTOR	Z201	EU01121	EYELET CG-10001 DIA 1.6
R916	AT03175S	METAL OX. 0.33OHM 1W	Z202	EU01121	EYELET CG-10001 DIA 1.6
R917	AT03175S	METAL OX. 0.33OHM 1W	Z203	EU01121	EYELET CG-10001 DIA 1.6
R919	AT03873M	1.5KOHM 1/2W RDS50 CARBON FILM RESISTOR	Z204	EU01121	EYELET CG-10001 DIA 1.6

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Z205	EU01121	EYELET CG-10001 DIA 1.6	C704	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
Z206	EU01121	EYELET CG-10001 DIA 1.6	C707	0244505R	CAP-CERAMIC 0.0022UF-K 500V
Z209	EU01121	EYELET CG-10001 DIA 1.6	C708	0243509R	CAP.-CERAMIC 470PF-K 500V
Z210	EU01121	EYELET CG-10001 DIA 1.6	C709	0890081R	CAP.-CERAMIC 330PF 50V
Z211	EU01121	EYELET CG-10001 DIA 1.6	C710 ⚠	AN02278F	CAP.POLYPRO ECWH20472JV
Z212	EU01121	EYELET CG-10001 DIA 1.6	C711 ⚠	AN02276F	CAP.POLYPRO ECWH20392JV
Z219	EU01121	EYELET CG-10001 DIA 1.6	C713 ⚠	AN01894F	CQ-334J251PHF FHSM165
Z220	EU01121	EYELET CG-10001 DIA 1.6	C714 ⚠	AN01894F	CQ-334J251PHF FHSM165
Z222	EU01121	EYELET CG-10001 DIA 1.6	C715	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
Z223	EU01121	EYELET CG-10001 DIA 1.6	C717	AN02261F	CAP.POLYPRO ECWH20102JV
Z224	EU01121	EYELET CG-10001 DIA 1.6	C718	0244505R	CAP-CERAMIC 0.0022UF-K 500V
Z225	EU01121	EYELET CG-10001 DIA 1.6	C719	0244505R	CAP-CERAMIC 0.0022UF-K 500V
Z229	EU01121	EYELET CG-10001 DIA 1.6	C720	0800326R	CAP.-ELECTRO. 100UF-M 16V
Z230	EU01121	EYELET CG-10001 DIA 1.6	C722	0880194R	CAP.-POLYESTER 0.1UF-J 50V
Z231	EU01121	EYELET CG-10001 DIA 1.6	C723	AN01901F	CQ-564J251PHF FHSM165
Z232	EU01121	EYELET CG-10001 DIA 1.6	C725	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
Z233	EU01121	EYELET CG-10001 DIA 1.6	C726	0800355N	CAP.ELECTRO. 470UF-M 35V
Z234	EU01121	EYELET CG-10001 DIA 1.6	C727	0800355N	CAP.ELECTRO. 470UF-M 35V
Z235	EU01121	EYELET CG-10001 DIA 1.6	C728	0890084R	CAP.-CERAMIC 560PF-K 50V
Z236	EU01121	EYELET CG-10001 DIA 1.6	C736	0243509R	CAP.-CERAMIC 470PF-K 500V
Z237	EU01121	EYELET CG-10001 DIA 1.6	CF01	AN01889F	CQ-224J251PHF FHSM
Z238	EU01121	EYELET CG-10001 DIA 1.6	CF02	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
Z239	EU01121	EYELET CG-10001 DIA 1.6	CF03	AJ00138R	CAP. CERAMIC CK45-R3DD222K-VR
Z240	EU01121	EYELET CG-10001 DIA 1.6	CF04	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
Z241	EU01121	EYELET CG-10001 DIA 1.6	CH01	0800326R	CAP.-ELECTRO. 100UF-M 16V
Z242	EU01121	EYELET CG-10001 DIA 1.6	CH02	0890078R	CAP.-CERAMIC 220PF-K 50V
Z243	EU01121	EYELET CG-10001 DIA 1.6	CH03	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
Z246	EU01121	EYELET CG-10001 DIA 1.6	CH05	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
Z247	EU01121	EYELET CG-10001 DIA 1.6	CH06	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
Z248	EU01121	EYELET CG-10001 DIA 1.6	CH07	0880033R	CAP.-POLYESTER 0.0015UF-KEB50V
Z249	EU01121	EYELET CG-10001 DIA 1.6	CH08	0800326R	CAP.-ELECTRO. 100UF-M 16V
Z250	EU01121	EYELET CG-10001 DIA 1.6	CH09	0880207R	CAP.-POLYESTER 1.0UF-J 50V
Z253	EU01121	EYELET CG-10001 DIA 1.6	CH10	0880194R	CAP.-POLYESTER 0.1UF-J 50V
Z254	EU01121	EYELET CG-10001 DIA 1.6	CH13 ⚠	AN02263F	CAP.POLYPRO ECWH20122JV
Z255	EU01121	EYELET CG-10001 DIA 1.6	CH14	0279692R	CAP.-POLYESTER 0.068UF 100V
			CH15	0880039R	CAP.-POLYESTER 0.0047UF-KEB50V
		CONNECTORS, JACKS	CH16	AL02753	CAP.ELEC. 680UF 160V MXC SERIE
PA	ED02801	2P PLUG PIN	CH17 ⚠	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
PPDE	2674281	3P B-PLUG PIN	CH18	0880198R	CAP.-PLOY. 0.22UF-J 50V
PPT1	ED03183	6P 2.5MM PITCH PLUG TAC-L06P-A	CH19	0880035R	CAP.-POLY 2200PF-50V
PPT2	ED04342U	2.54MM PITCH 20P B TO B CONNEC	CH20 ⚠	AN02263F	CAP.POLYPRO ECWH20122JV
PPT3	ED04342U	2.54MM PITCH 20P B TO B CONNEC	CH21	0279690R	CAP.-POLYESTOR 0.033UF 100V
			CH24	0880207R	CAP.-POLYESTER 1.0UF-J 50V
		MISCELLANEOUS	CH99	0880203R	CAP.-POLYESTER 0.47UF-J 50V
			CK40	0800355N	CAP.ELECTRO. 470UF-M 35V
			CK41	0800355N	CAP.ELECTRO. 470UF-M 35V
N901	MA01861	POWER HEAT SINK (A) DP5X	CK42	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
N941	MA01871	POWER HEAT SINK (B) DP5X	CK43	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
N942	MA01272	HEAT SINK SPTE H=25	CK44	0890079R	CAP.-CERAMIC 270PF-K 50V
NC93	ME03402	VARISTOR COVER DIA. 10 PVC	CK45	0890079R	CAP.-CERAMIC 270PF-K 50V
ND91	MJ03595	SCRW M3M_3*12PN+SM Unknown	CK46	0890079R	CAP.-CERAMIC 270PF-K 50V
ND94	MJ03595	SCRW M3M_3*12PN+SM Unknown	CK47	0890079R	CAP.-CERAMIC 270PF-K 50V
ND95	MJ03595	SCRW M3M_3*12PN+SM Unknown	CK48	0890079R	CAP.-CERAMIC 270PF-K 50V
NI91	MJ03595	SCRW M3M_3*12PN+SM Unknown	CK49	0890079R	CAP.-CERAMIC 270PF-K 50V
NX91	ME03402	VARISTOR COVER DIA. 10 PVC	CK50	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDRICAL
Z948	ZX03171	SILICON RUBBER SES-40W	CK51	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDRICAL
ZNS	ZX03171	SILICON RUBBER SES-40W	CK52	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDRICAL
ZNS9	9414017W	SILICONE COMPOUND(G-746)	CK53	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDRICAL
			CK54	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDRICAL
		DEFLECTION PWB	CK55	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDRICAL
			CK58	0880194R	CAP.-POLYESTER 0.1UF-J 50V
		CAPACITORS	CK59	0880194R	CAP.-POLYESTER 0.1UF-J 50V
C602	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CK60	0880194R	CAP.-POLYESTER 0.1UF-J 50V
C603	0279693R	CAP.-POLYESTER FLM 0.1UF	CK61	0880194R	CAP.-POLYESTER 0.1UF-J 50V
C604	0800347N	CAP.-ELECTRO. 330UF-M(SMG) 50V	CP01 ⚠	AJ00182F	CAP. CERAMIC CD85-E2GA102MYNS
C605	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V	CP02 ⚠	AJ00195F	CAP. CERAMIC CK45-F2EA472ZYNN
C606	AL01162R	CAP.ELECTRO 10UF-M(YXF)50V	CP03 ⚠	AJ00195F	CAP. CERAMIC CK45-F2EA472ZYNN
C607	AL01143S	CAP.ELECTROLYTIC 2200UF-M(YXF)25V	CP04	AL02762	CAP.ELEC. 680UF 200V MXC SERIES
C608	AL01162R	CAP.ELECTRO 10UF-M(YXF)50V	CP05	AL02762	CAP.ELEC. 680UF 200V MXC SERIES
C609	0279693R	CAP.-POLYESTER FLM 0.1UF	CP06	0880194R	CAP.-POLYESTER 0.1UF-J 50V
C610	0800318R	CAP.-ELECTRO. 47UF-M 25V	CP07	0800337R	CAP.-ELECTRO 220UF 35V (SMG TY PE)
C612	0890033M	CAP.-CERAMIC 680PF-K B 50V CYLINDRICAL	CP08	0299616F	CAP.-POLYPROPYLENE FILM 0.0033UF-J 630V
C701	0800353R	CAP.-ELECTRO.470UF-M 16V	CP09	0890085R	CAP.-CERAMIC 680PF-K 50V
C702	0880203R	CAP.-POLYESTER 0.47UF-J 50V	CP10	0880198R	CAP.-PLOY. 0.22UF-J 50V
C703	0890085R	CAP.-CERAMIC 680PF-K 50V	CP40	0244501R	CAP.-CERAMIC 1000PF-K 500V

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SYMBOL	PART #	DESCRIPTION
CP41	0243509R	CAP.-CERAMIC 470PF-K 500V
CP42	0243509R	CAP.-CERAMIC 470PF-K 500V
CP43	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
CP44	AJ00132R	CAP. CERAMIC CK45-R3DD681K-VR
CP45	AJ00132R	CAP. CERAMIC CK45-R3DD681K-VR
CP46	AL01866R	1000UF 35V ALUMINIUM ELECTROLYTIC CAP.
CP47	AL01153S	CAP.ELECTR. 1000UF-M 35V
CP48	0800326R	CAP.-ELECTRO. 100UF-M 16V
CP49	AL01129S	CAP.ELECTROLYTIC 1000UF-M(YXF)16V
CP50	AL02323	CE-101M251EW(KMX)D16
CP51	AL02301	CE-331M 160V KMX160VB330ML31
CP52	0800337R	CAP.-ELECTRO 220UF 35V (SMG TY PE)
CP53	0800337R	CAP.-ELECTRO 220UF 35V (SMG TY PE)
CP54	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CP55	0800353R	CAP.-ELECTRO.470UF-M 16V
CP56	0800326R	CAP.-ELECTRO. 100UF-M 16V
CP57	0800352R	CAP.-ELECTRO.470UF 10V
CP58	0299969F	CAP.-POLYESTER 0.001UF-JPF160V
CP59	0800319R	CAP.-ELECTRO. 47UF-M 35V
CP63	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
		DIODES
D601	2331815M	ZENER HZ7-B2
D603	CH02001M	DIODE 1SR139-400
D605	CH02011M	DIODE 1SR153-400
D606	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V
D607	CH02001M	DIODE 1SR139-400
D608	2344041M	DIODE 1SS254TA/1SS270TA
D610	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D611	2334315M	ZENER DIODE RD33E TAPE (B4)
D701	CH02001M	DIODE 1SR139-400
D705	2348193M	ZENER DIODE MTZJ-12C TA
D706	2348163M	ZENER MTZJ-9.1C TA
D709	2344041M	DIODE 1SS254TA/1SS270TA
D711	CH00041M	DIODE ES1FV1 (1500V)
D712	CH00041M	DIODE ES1FV1 (1500V)
D713	2348002M	DIODE MTZ-J2.0BT
D715	CH02001M	DIODE 1SR139-400
D722	CH02001M	DIODE 1SR139-400
D723	CH02001M	DIODE 1SR139-400
DF01	2344041M	DIODE 1SS254TA/1SS270TA
DH01 ⚠	2348093M	DIODE MTZ-J4.7C TAPE
DH02	2344041M	DIODE 1SS254TA/1SS270TA
DH03	2344041M	DIODE 1SS254TA/1SS270TA
DH04	2348091M	DIODE MTZ-J4.7A TAPE
DH05	2348193M	ZENER DIODE MTZJ-12C TA
DH06	2344041M	DIODE 1SS254TA/1SS270TA
DH07 ⚠	2359312S	DIODE RU3C LF-C4 (1000V 1.5A)
DH08	2334243M	ZENER RD16E (B2 T2/TP/TA) SI 10MA 16.51V
DH09 ⚠	CH00041M	DIODE ES1FV1 (1500V)
DH10	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DH11 ⚠	2359312S	DIODE RU3C LF-C4 (1000V 1.5A)
DH12	2344041M	DIODE 1SS254TA/1SS270TA
DH13 ⚠	CH00031M	DIODE AU02V1(280V)
DH14	2348282M	DIODE MTZ-J30B TAPE
DH15 ⚠	2335042M	ZENER HZ-22 (2L TP) SI 200MA 400MW
DH16	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V
DH17	2344041M	DIODE 1SS254TA/1SS270TA
DH18	2344041M	DIODE 1SS254TA/1SS270TA
DH19	2344041M	DIODE 1SS254TA/1SS270TA
DK35	2331815M	ZENER HZ7-B2
DK36	2331815M	ZENER HZ7-B2
DK42	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK43	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK44	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK45	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK46	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK47	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK48	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK49	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK50	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK51	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK52	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK53	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DK54	2348142M	ZENER MTZ-J7.5BTA
DK55	2348142M	ZENER MTZ-J7.5BTA
DK56	2348142M	ZENER MTZ-J7.5BTA
DK57	2348142M	ZENER MTZ-J7.5BTA
DK58	2348142M	ZENER MTZ-J7.5BTA
DK59	2348142M	ZENER MTZ-J7.5BTA
DK60	2348142M	ZENER MTZ-J7.5BTA
DK61	2348142M	ZENER MTZ-J7.5BTA
DK62	2348142M	ZENER MTZ-J7.5BTA
DK63	2348142M	ZENER MTZ-J7.5BTA
DK64	2348142M	ZENER MTZ-J7.5BTA
DK65	2348142M	ZENER MTZ-J7.5BTA
DK70	2348142M	ZENER MTZ-J7.5BTA
DP01 ⚠	2342061	DIODE D3SB(A)60.
DP02	2334304M	ZENER RD30E (B3 T2/TP/TA) SI 5MA 30.51V
DP03	CH02011M	DIODE 1SR153-400
DP04	CH02011M	DIODE 1SR153-400
DP05	2331844M	ZENER HZ12-B1
DP40	CH02751	FMN-G12S
DP42	2337951S	DIODE RU4Z(LF015-302)
DP43	CH02011M	DIODE 1SR153-400
DP44	2337951S	DIODE RU4Z(LF015-302)
DP45	2359314G	DIODE RU-3C P12.5
DP46	CH02731	DIO-FMUP-1056E
DP48	CH02673R	LED SM3517F6T (GREEN)
DP50	2348123M	ZENER MTZJ-6.2C TA
DP51	2344041M	DIODE 1SS254TA/1SS270TA
DP53	2334304M	ZENER RD30E (B3 T2/TP/TA) SI 5MA 30.51V
DP55	2348282M	DIODE MTZ-J30B TAPE
DP56	2344041M	DIODE 1SS254TA/1SS270TA
DP57	2344041M	DIODE 1SS254TA/1SS270TA
DP58	2348143M	DIODE MTZ-J7.5CTA
DP59	CH02673R	LED SM3517F6T (GREEN)
DP60	2348081M	DIODE MTZ-J4.3ATA
DP61	2344041M	DIODE 1SS254TA/1SS270TA
DP62	2344041M	DIODE 1SS254TA/1SS270TA
DP63	CH02001M	DIODE 1SR139-400
DP64	CH02001M	DIODE 1SR139-400
DP65	2344041M	DIODE 1SS254TA/1SS270TA
DP66	CH02001M	DIODE 1SR139-400
		FUSES, PROTECTORS
EP40 ⚠	AZ00921M	PROTECTOR 0491010.NRT1-[JA]
EP41 ⚠	AZ00921M	PROTECTOR 0491010.NRT1-[JA]
EP42 ⚠	AZ00916M	PROTECTOR 0491003.NRT1-[JA]
EP43 ⚠	AZ00918M	PROTECTOR 0491005.NRT1-[JA]
EP44 ⚠	AZ00917M	PROTECTOR 0491004.NRT1-[JA]
EP45 ⚠	AZ00916M	PROTECTOR 0491003.NRT1-[JA]
EP46 ⚠	AZ00911M	PROTECTOR 0491.500NRT1-[JA]
EP47 ⚠	AZ00914M	PROTECTOR 0491002.NRT1-[JA]
FP01 ⚠	FN00473	FUSE 51MS 050 L-U
GF01 ⚠	CJ00072R	SPARK GAP 2.5KV
GF02 ⚠	CJ00072R	SPARK GAP 2.5KV
		INTEGRATED CIRCUITS (IC's)
I601	CP06891	IC TDA8174A
I701	2362606	IC NJM4558D
IH01 ⚠	CP07091	IC M62501P
IK02	CP05011R	IC PST994D-T
IK40	CZ01251	STK394-710
IK41	CZ01251	STK394-710
IP01 ⚠	CZ01082	IC STR-F6628(LF1359))
IP02 ⚠	CP07851	MONO IC TLP421
IP40 ⚠	2381343	IC (SE115N)
IP41	CP05163S	IC SI-3090F(LF1111)
		JUMPER WIRES
K001	2784381M	0.60MM TAPED JUMP.WIRE
K002	2784381M	0.60MM TAPED JUMP.WIRE
K003	2784381M	0.60MM TAPED JUMP.WIRE
K004	2784381M	0.60MM TAPED JUMP.WIRE
K005	2784381M	0.60MM TAPED JUMP.WIRE
K006	2784381M	0.60MM TAPED JUMP.WIRE
K007	2784381M	0.60MM TAPED JUMP.WIRE
K008	2784381M	0.60MM TAPED JUMP.WIRE
K010	2784381M	0.60MM TAPED JUMP.WIRE

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SYMBOL	PART #	DESCRIPTION
K011	2784381M	0.60MM TAPED JUMP.WIRE
K012	2784381M	0.60MM TAPED JUMP.WIRE
K014	2784381M	0.60MM TAPED JUMP.WIRE
K015	2784381M	0.60MM TAPED JUMP.WIRE
K016	2784381M	0.60MM TAPED JUMP.WIRE
K017	2784381M	0.60MM TAPED JUMP.WIRE
K018	2784381M	0.60MM TAPED JUMP.WIRE
K019	2784381M	0.60MM TAPED JUMP.WIRE
K020	2784381M	0.60MM TAPED JUMP.WIRE
K021	2784381M	0.60MM TAPED JUMP.WIRE
K022	2784381M	0.60MM TAPED JUMP.WIRE
K023	2784381M	0.60MM TAPED JUMP.WIRE
K024	2784381M	0.60MM TAPED JUMP.WIRE
K025	2784381M	0.60MM TAPED JUMP.WIRE
K026	2784381M	0.60MM TAPED JUMP.WIRE
K027	2784381M	0.60MM TAPED JUMP.WIRE
K028	2784381M	0.60MM TAPED JUMP.WIRE
K029	2784381M	0.60MM TAPED JUMP.WIRE
K030	2784381M	0.60MM TAPED JUMP.WIRE
K031	2784381M	0.60MM TAPED JUMP.WIRE
K032	2784381M	0.60MM TAPED JUMP.WIRE
K033	2784381M	0.60MM TAPED JUMP.WIRE
K034	2784381M	0.60MM TAPED JUMP.WIRE
K035	2784381M	0.60MM TAPED JUMP.WIRE
K036	2784381M	0.60MM TAPED JUMP.WIRE
K037	2784381M	0.60MM TAPED JUMP.WIRE
K038	2784381M	0.60MM TAPED JUMP.WIRE
K039	2784381M	0.60MM TAPED JUMP.WIRE
K040	2784381M	0.60MM TAPED JUMP.WIRE
K041	2784381M	0.60MM TAPED JUMP.WIRE
K042	2784381M	0.60MM TAPED JUMP.WIRE
K044	2784381M	0.60MM TAPED JUMP.WIRE
K045	2784381M	0.60MM TAPED JUMP.WIRE
K046	2784381M	0.60MM TAPED JUMP.WIRE
K047	2784381M	0.60MM TAPED JUMP.WIRE
K048	2784381M	0.60MM TAPED JUMP.WIRE
K049	2784381M	0.60MM TAPED JUMP.WIRE
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K062	2784381M	0.60MM TAPED JUMP.WIRE
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K064	2784381M	0.60MM TAPED JUMP.WIRE
K065	2784381M	0.60MM TAPED JUMP.WIRE
K066	2784381M	0.60MM TAPED JUMP.WIRE
K067	2784381M	0.60MM TAPED JUMP.WIRE
K068	2784381M	0.60MM TAPED JUMP.WIRE
K069	2784381M	0.60MM TAPED JUMP.WIRE
K070	2784381M	0.60MM TAPED JUMP.WIRE
K071	2784381M	0.60MM TAPED JUMP.WIRE
K072	2784381M	0.60MM TAPED JUMP.WIRE
K073	2784381M	0.60MM TAPED JUMP.WIRE
K074	2784381M	0.60MM TAPED JUMP.WIRE
K075	2784381M	0.60MM TAPED JUMP.WIRE
K076	2784381M	0.60MM TAPED JUMP.WIRE
K078	2784381M	0.60MM TAPED JUMP.WIRE
K079	2784381M	0.60MM TAPED JUMP.WIRE
K080	2784381M	0.60MM TAPED JUMP.WIRE
K081	2784381M	0.60MM TAPED JUMP.WIRE
K082	2784381M	0.60MM TAPED JUMP.WIRE
K084	2784381M	0.60MM TAPED JUMP.WIRE
K085	2784381M	0.60MM TAPED JUMP.WIRE
K086	2784381M	0.60MM TAPED JUMP.WIRE
K087	2784381M	0.60MM TAPED JUMP.WIRE
K088	2784381M	0.60MM TAPED JUMP.WIRE
K089	2784381M	0.60MM TAPED JUMP.WIRE
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K095	2784381M	0.60MM TAPED JUMP.WIRE
K097	2784381M	0.60MM TAPED JUMP.WIRE
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K099	2784381M	0.60MM TAPED JUMP.WIRE
K100	2784381M	0.60MM TAPED JUMP.WIRE
K101	2784381M	0.60MM TAPED JUMP.WIRE
K102	2784381M	0.60MM TAPED JUMP.WIRE
K104	2784381M	0.60MM TAPED JUMP.WIRE
K105	2784381M	0.60MM TAPED JUMP.WIRE
K106	2784381M	0.60MM TAPED JUMP.WIRE
K107	2784381M	0.60MM TAPED JUMP.WIRE
K108	2784381M	0.60MM TAPED JUMP.WIRE
K109	2784381M	0.60MM TAPED JUMP.WIRE
K110	2784381M	0.60MM TAPED JUMP.WIRE
K115	2784381M	0.60MM TAPED JUMP.WIRE
K116	2784381M	0.60MM TAPED JUMP.WIRE
K117	2784381M	0.60MM TAPED JUMP.WIRE
K118	2784381M	0.60MM TAPED JUMP.WIRE
K119	2784381M	0.60MM TAPED JUMP.WIRE
K120	2784381M	0.60MM TAPED JUMP.WIRE
K121	2784381M	0.60MM TAPED JUMP.WIRE
K122	2784381M	0.60MM TAPED JUMP.WIRE
K123	2784381M	0.60MM TAPED JUMP.WIRE
K124	2784381M	0.60MM TAPED JUMP.WIRE
K125	2784381M	0.60MM TAPED JUMP.WIRE
K126	2784381M	0.60MM TAPED JUMP.WIRE
K127	2784381M	0.60MM TAPED JUMP.WIRE
K128	2784381M	0.60MM TAPED JUMP.WIRE
K130	2784381M	0.60MM TAPED JUMP.WIRE
K132	2784381M	0.60MM TAPED JUMP.WIRE
K133	2784381M	0.60MM TAPED JUMP.WIRE
K134	2784381M	0.60MM TAPED JUMP.WIRE
K135	2784381M	0.60MM TAPED JUMP.WIRE
K136	2784381M	0.60MM TAPED JUMP.WIRE
K137	2784381M	0.60MM TAPED JUMP.WIRE
K138	2784381M	0.60MM TAPED JUMP.WIRE
K139	2784381M	0.60MM TAPED JUMP.WIRE
K140	2784381M	0.60MM TAPED JUMP.WIRE
K141	2784381M	0.60MM TAPED JUMP.WIRE
KC40	2784381M	0.60MM TAPED JUMP.WIRE
KC41	2784381M	0.60MM TAPED JUMP.WIRE
KC42	2784381M	0.60MM TAPED JUMP.WIRE
KC45	2784381M	0.60MM TAPED JUMP.WIRE
KC46	2784381M	0.60MM TAPED JUMP.WIRE
KC47	2784381M	0.60MM TAPED JUMP.WIRE
KC48	2784381M	0.60MM TAPED JUMP.WIRE
KD02	2784381M	0.60MM TAPED JUMP.WIRE
KD04	2784381M	0.60MM TAPED JUMP.WIRE
KD05	2784381M	0.60MM TAPED JUMP.WIRE
KD06	2784381M	0.60MM TAPED JUMP.WIRE
KD07	2784381M	0.60MM TAPED JUMP.WIRE
KD08	2784381M	0.60MM TAPED JUMP.WIRE
KD09	2784381M	0.60MM TAPED JUMP.WIRE
KD12	2784381M	0.60MM TAPED JUMP.WIRE
KD13	2784381M	0.60MM TAPED JUMP.WIRE
KD18	2784381M	0.60MM TAPED JUMP.WIRE
KPG1	2784381M	0.60MM TAPED JUMP.WIRE
KPG2	2784381M	0.60MM TAPED JUMP.WIRE
KPL1	2784381M	0.60MM TAPED JUMP.WIRE
KPW1	2784381M	0.60MM TAPED JUMP.WIRE
KPW4	2784381M	0.60MM TAPED JUMP.WIRE
KPW5	2784381M	0.60MM TAPED JUMP.WIRE
		COILS
L601	2125803N	FILT.COIL(LHL08 27UH)
L602	2125803N	FILT.COIL(LHL08 27UH)
L603	2125811N	FILT.COIL(LHL08 100UH)
L703	BH00228R	COIL 332K-1T7608A
L704	BZ05572	HORIZONTAL LINEARITY COIL 14UH
L705	BZ05571	HORIZONTAL LINEARITY COIL 9UH
LH01	2125821N	COIL LHL08 560UH

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SYMBOL	PART #	DESCRIPTION
LH03	BH01342M	COIL FERRITE BEADS 2.3UH
LH06 ⚠	2125824N	FILT.COIL(LHL08 1000UH)
LP01	BH01342M	COIL FERRITE BEADS 2.3UH
LP02	BH01342M	COIL FERRITE BEADS 2.3UH
LP03	BH01341M	COIL FERRITE BEADS 0.8UH
LP04	BH01341M	COIL FERRITE BEADS 0.8UH
LP06 ⚠	BZ06211	LX-LINE FILTER TLK20BH
LP40	2125803N	FILT.COIL(LHL08 27UH)
LP41	2125806N	FILT.COIL(LHL08 47UH)
LP42	2125803N	FILT.COIL(LHL08 27UH)
LP43	2125806N	FILT.COIL(LHL08 47UH)
LP44	2125811N	FILT.COIL(LHL08 100UH)
LP45	2125811N	FILT.COIL(LHL08 100UH)
LP46	2125797N	FILT.COIL(LHL08 10UH)
LP47	2125806N	FILT.COIL(LHL08 47UH)
		TRANSISTORS
Q603	CF02981R	2SC5343YT_PF
Q604	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q701	2328102	TRS.FN-521
Q703	2324321M	TRANSISTOR 2SC2610-05
Q706	CF02981R	2SC5343YT_PF
Q709	2326216	TRS. 2SC3116 (S/T)
Q710	CF02981R	2SC5343YT_PF
Q777 ⚠	CF03031F	TRS. 2SC6012000LT
QF01	CF00821F	TRS. 2SC4686A 1200V
QH01 ⚠	CF01583F	TRS. 2SK2771-01R-F168R
QH02	CF02781R	TRS. KTC200YAT
QH03	2326811R	TRANSISTOR 2SC3468 (E/F)
QH04	CF02781R	TRS. KTC200YAT
QH05	2326811R	TRANSISTOR 2SC3468 (E/F)
QP01	CF02981R	2SC5343YT_PF
QP40	2312172F	TRS. 2SD2375-P/Q(LT)
QP41	CF02281R	TRS. 2SA821S
		RESISTORS
R601	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R602	0100115M	RES.-CARBON FLM 1/8W 120K-JB
R604	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R605	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R606	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R607	AW00341	6R 100KOHM 0.3W VZ067TH7 TRIMMER RESISTOR
R608	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R609	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R611	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R612	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R613	0100053M	RES.-CARBON FLM 1/8W 330-JB
R614	0100053M	RES.-CARBON FLM 1/8W 330-JB
R616	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R617	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R619	AT03191S	METAL OX. 1.2OHM 1W
R620	AT03191S	METAL OX. 1.2OHM 1W
R621	0100049M	RES.-CARBON FLM 1/8W 220-JB
R622	0188093M	ES.-CARBON FLM 1/2W 1.5-J
R625	AT03251S	METAL OX. 220OHM 1W
R626	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR
R627	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR
R628	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR
R629	AT03184S	METAL OX. 0.68OHM 1W
R630	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R631	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R632	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R701	AT03654M	RES.MTL GRAZD FLM 1/2W 180K
R703	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R704	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR
R706	AT03881M	5.6KOHM 1/2W RDS50 CARBON FILM RESISTOR
R707	AT03882M	6.8KOHM 1/2W RDS50 CARBON FILM RESISTOR
R708	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R709	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R710	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R711	AW00333	6R 2KOHM 0.3W VZ067TH7 TRIMMER RESISTOR
R712	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R713	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R714	0700035M	RES.-CARBON FLM 1/16W 390-JB
R715	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R721	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R722	0700032M	RES.-CARBON FLM 1/16W 220-JB
R723	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR
R724	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R725	0100085M	RES.-CARBON FLM 1/8W 6.8K-JB
R729	AT03562S	METAL OX. 100OHM 3W
R730	AT03424S	METAL OX. 680OHM 2W
R731	AT01532S	METAL FILM RESISTOR(0.12OHM 1/2W)
R732	AT03844M	10.0OHM 1/2W RDS50 CARBON FILM RESISTOR
R735	0700033M	RES.-CARBON FLM 1/16W 270-JB
R736	0700033M	RES.-CARBON FLM 1/16W 270-JB
R737	AT03869M	820OHM 1/2W RDS50 CARBON FILM RESISTOR
R738	AT03588S	METAL OX. 1.0KOHM 3W
R739	AT03251S	METAL OX. 220OHM 1W
R740	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R741	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R742	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R747	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R748	AT03422S	METAL OX. 560OHM 2W
R765	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R799	AT03411S	METAL OX. 220OHM 2W
RF01	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RF02	AT04431M	ASR 12 TB 560KOHM J
RF03	AT04431M	ASR 12 TB 560KOHM J
RF04	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RF05	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RF06	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RF07	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR
RF09	AT03213S	METAL OX. 8.2OHM 1W
RF10	AT03213S	METAL OX. 8.2OHM 1W
RH01	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
RH02	0700055M	RES.-CARBON FLM 1/16W 12K-JB
RH03	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RH04	0700062M	RES.-CARBON FLM 1/16W 39K-JB
RH05	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RH06	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RH07	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RH08	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RH09	0700055M	RES.-CARBON FLM 1/16W 12K-JB
RH10	AT03869M	820OHM 1/2W RDS50 CARBON FILM RESISTOR
RH11 ⚠	AT03195S	METAL OX. 1.8OHM 1W
RH12 ⚠	AT03195S	METAL OX. 1.8OHM 1W
RH13	0100033M	RES.-CARBON FLM 1/8W 47-JB
RH14	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RH15 ⚠	AT03195S	METAL OX. 1.8OHM 1W
RH16	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RH17 ⚠	AW00208	TRIMMER RESISTOR 100KOHM 1/2W
RH18 ⚠	0700061M	RES.-CARBON FLM 1/16W 33K-JB
RH19 ⚠	0119653M	RES.-MTL FLM 1/8W 82K-FB
RH20 ⚠	0119643M	RES.-MTL FLM 1/8W 33K-FB
RH21	AT03277S	METAL OX. 2.2KOHM 1W
RH22	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RH23 ⚠	AT03882M	6.8KOHM 1/2W RDS50 CARBON FILM RESISTOR
RH24 ⚠	0119646M	RES.-MTL FLM 1/8W 43K-FB
RH25 ⚠	0119634M	RES.-MTL FLM 1/8W 13K-FB
RH26	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RH27	0100100M	RES.-CARBON FLM 1/8W 30K-JB
RH28	AT03892M	39KOHM 1/2W RDS50 CARBON FILM RESISTOR
RH29	0700027M	RES.-CARBON FLM 1/16W 100-JB
RH30	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RH31	AT03291S	METAL OX. 6.8KOHM 1W
RH32 ⚠	0100119M	RES.-CARBON FLM 1/8W 180K-JB
RH33	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RH34	AT03215S	METAL OX. 10.0OHM 1W
RH35	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RH36	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RH37	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RH40	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RH41	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RH42	0100105M	RES.-CARBON FLM 1/8W 47K-JB
RH43	0100119M	RES.-CARBON FLM 1/8W 180K-JB
RK11	0100085M	RES.-CARBON FLM 1/8W 6.8K-JB
RK12	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
RK40	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK41	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB

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SYMBOL	PART #	DESCRIPTION
RK42	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK43	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK44	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK45	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK46	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK47	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK48	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK49	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK50	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK51	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK52	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK53	AT03213S	METAL OX. 8.2OHM 1W
RK54	AT03213S	METAL OX. 8.2OHM 1W
RK55	AT03411S	METAL OX. 220OHM 2W
RK56	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK57	AT03206S	METAL OX. 4.7OHM 1W
RK58	AT03206S	METAL OX. 4.7OHM 1W
RK59	AT03406S	METAL OX. 150OHM 2W
RK60	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK61	AT03211S	METAL OX. 6.8OHM 1W
RK62	AT03211S	METAL OX. 6.8OHM 1W
RK63	AT03411S	METAL OX. 220OHM 2W
RK64	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK65	AT03206S	METAL OX. 4.7OHM 1W
RK66	AT03206S	METAL OX. 4.7OHM 1W
RK67	AT03406S	METAL OX. 150OHM 2W
RK68	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK69	AT03208S	METAL OX. 5.6OHM 1W
RK70	AT03208S	METAL OX. 5.6OHM 1W
RK71	AT03406S	METAL OX. 150OHM 2W
RK72	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK73	AT03213S	METAL OX. 8.2OHM 1W
RK74	AT03213S	METAL OX. 8.2OHM 1W
RK75	AT03411S	METAL OX. 220OHM 2W
RK76	0700062M	RES.-CARBON FLM 1/16W 39K-JB
RK77	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RP01	AT03444S	METAL OX. 3.9KOHM 2W
RP02	AT03444S	METAL OX. 3.9KOHM 2W
RP03	AT04428M	ASR 12 TB 390KOHM J
RP05	AT05902F	RE-R05 J0002FF
RP09	0700038M	RES.-CARBON FLM 1/16W 680-JB
RP10	AT03875M	2.2KOHM 1/2W RDS50 CARBON FILM RESISTOR
RP11	AT03848M	22.0OHM 1/2W RDS50 CARBON FILM RESISTOR
RP12	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RP13	AT03665M	RES.MTL GRAZD FLM 1/2W 1M
RP14	0700056M	RES.-CARBON FLM 1/16W 15K-JB
RP40	AT03888M	22KOHM 1/2W RDS50 CARBON FILM RESISTOR
RP41	AT03886M	15KOHM 1/2W RDS50 CARBON FILM RESISTOR
RP42	0700032M	RES.-CARBON FLM 1/16W 220-JB
RP43	AT03873M	1.5KOHM 1/2W RDS50 CARBON FILM RESISTOR
RP44	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RP45	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RP46	AT03275S	METAL OX. 1.8KOHM 1W
RP47	0119693M	RES.-MTL FLM 1W 0.39-JB
RP48	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RP49	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RP51	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RP53	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RP54	AT03896M	82KOHM 1/2W RDS50 CARBON FILM RESISTOR
RP55	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RP56	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RP57	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RP58	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RP59	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
		TRANSFORMERS
T701 ⚠	BT01232	HORIZONTAL OUTPUT TRANSFORMER
T702 ⚠	BZ03061	DRIVE TRANS.-DJ81
TF01 ⚠	BT02141	EE22 DYNAMIC FOCUS TRANSFORMER
TH01 ⚠	BW03171	FBT HFL1535AP-RC
TP01 ⚠	BT02291	PT-EE4242F20U-DP5X DEF
		EYELETS
Z101	EU01122	EYELET CG-10002 DIA 2.0
Z102	EU01122	EYELET CG-10002 DIA 2.0
Z120	EU01122	EYELET CG-10002 DIA 2.0
Z121	EU01122	EYELET CG-10002 DIA 2.0
Z130	EU01122	EYELET CG-10002 DIA 2.0
Z131	EU01122	EYELET CG-10002 DIA 2.0
Z132	EU01122	EYELET CG-10002 DIA 2.0
Z133	EU01122	EYELET CG-10002 DIA 2.0
Z151	EU01122	EYELET CG-10002 DIA 2.0
Z152	EU01122	EYELET CG-10002 DIA 2.0
Z153	EU01122	EYELET CG-10002 DIA 2.0
Z154	EU01122	EYELET CG-10002 DIA 2.0
Z155	EU01122	EYELET CG-10002 DIA 2.0
Z156	EU01122	EYELET CG-10002 DIA 2.0
Z157	EU01122	EYELET CG-10002 DIA 2.0
Z158	EU01122	EYELET CG-10002 DIA 2.0
Z159	EU01122	EYELET CG-10002 DIA 2.0
Z160	EU01122	EYELET CG-10002 DIA 2.0
Z161	EU01122	EYELET CG-10002 DIA 2.0
Z162	EU01122	EYELET CG-10002 DIA 2.0
Z163	EU01122	EYELET CG-10002 DIA 2.0
Z169	EU01122	EYELET CG-10002 DIA 2.0
Z170	EU01122	EYELET CG-10002 DIA 2.0
Z171	EU01122	EYELET CG-10002 DIA 2.0
Z172	EU01122	EYELET CG-10002 DIA 2.0
Z173	EU01122	EYELET CG-10002 DIA 2.0
Z174	EU01122	EYELET CG-10002 DIA 2.0
Z178	EU01122	EYELET CG-10002 DIA 2.0
Z179	EU01122	EYELET CG-10002 DIA 2.0
Z180	EU01122	EYELET CG-10002 DIA 2.0
Z181	EU01122	EYELET CG-10002 DIA 2.0
Z182	EU01122	EYELET CG-10002 DIA 2.0
Z183	EU01122	EYELET CG-10002 DIA 2.0
Z184	EU01122	EYELET CG-10002 DIA 2.0
Z185	EU01122	EYELET CG-10002 DIA 2.0
Z186	EU01122	EYELET CG-10002 DIA 2.0
Z187	EU01122	EYELET CG-10002 DIA 2.0
Z188	EU01122	EYELET CG-10002 DIA 2.0
Z189	EU01122	EYELET CG-10002 DIA 2.0
Z190	EU01122	EYELET CG-10002 DIA 2.0
Z191	EU01122	EYELET CG-10002 DIA 2.0
Z192	EU01122	EYELET CG-10002 DIA 2.0
Z193	EU01122	EYELET CG-10002 DIA 2.0
Z194	EU01122	EYELET CG-10002 DIA 2.0
Z195	EU01122	EYELET CG-10002 DIA 2.0
Z196	EU01122	EYELET CG-10002 DIA 2.0
Z197	EU01122	EYELET CG-10002 DIA 2.0
Z198	EU01122	EYELET CG-10002 DIA 2.0
Z201	EU01121	EYELET CG-10001 DIA 1.6
Z202	EU01121	EYELET CG-10001 DIA 1.6
Z203	EU01121	EYELET CG-10001 DIA 1.6
Z204	EU01121	EYELET CG-10001 DIA 1.6
Z205	EU01121	EYELET CG-10001 DIA 1.6
Z206	EU01121	EYELET CG-10001 DIA 1.6
Z207	EU01121	EYELET CG-10001 DIA 1.6
Z208	EU01121	EYELET CG-10001 DIA 1.6
Z209	EU01121	EYELET CG-10001 DIA 1.6
Z210	EU01121	EYELET CG-10001 DIA 1.6
Z211	EU01121	EYELET CG-10001 DIA 1.6
Z212	EU01121	EYELET CG-10001 DIA 1.6
Z213	EU01121	EYELET CG-10001 DIA 1.6
Z214	EU01121	EYELET CG-10001 DIA 1.6
Z215	EU01121	EYELET CG-10001 DIA 1.6
Z216	EU01121	EYELET CG-10001 DIA 1.6
Z217	EU01121	EYELET CG-10001 DIA 1.6
Z218	EU01121	EYELET CG-10001 DIA 1.6
Z219	EU01121	EYELET CG-10001 DIA 1.6
Z220	EU01121	EYELET CG-10001 DIA 1.6
Z221	EU01121	EYELET CG-10001 DIA 1.6
Z222	EU01121	EYELET CG-10001 DIA 1.6
Z223	EU01121	EYELET CG-10001 DIA 1.6
Z224	EU01121	EYELET CG-10001 DIA 1.6
Z225	EU01121	EYELET CG-10001 DIA 1.6
Z226	EU01121	EYELET CG-10001 DIA 1.6
Z227	EU01121	EYELET CG-10001 DIA 1.6
Z228	EU01121	EYELET CG-10001 DIA 1.6
Z229	EU01121	EYELET CG-10001 DIA 1.6

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
Z230	EU01121	EYELET CG-10001 DIA 1.6	NH01	MA01881	H.V.OUT HEAT SINK DP5X
Z231	EU01121	EYELET CG-10001 DIA 1.6	NH02	MJ03595	SCRW M3M_3*12PN+SM Unknown
Z234	EU01121	EYELET CG-10001 DIA 1.6	NH11	NJ21481	FBT HOLDER DP5X
Z235	EU01121	EYELET CG-10001 DIA 1.6	NH12	MJ03553	SCRW T2B_3*16BD+ SWCH15A
Z236	EU01121	EYELET CG-10001 DIA 1.6	NK40	MA01627	CONV. HEAT SINK DP5X A
Z237	EU01121	EYELET CG-10001 DIA 1.6	NK41	MA01627	CONV. HEAT SINK DP5X A
Z238	EU01121	EYELET CG-10001 DIA 1.6	NK46	MJ03597	SCRW M3M_3*16PN+SM Unknown
Z239	EU01121	EYELET CG-10001 DIA 1.6	NP01	MA01572	POWER HEAT SINK DP2X-2 A1100P-H14
Z240	EU01121	EYELET CG-10001 DIA 1.6	NP40	MA01272	HEAT SINK SPTE H=25
Z241	EU01121	EYELET CG-10001 DIA 1.6	NP42	MA01272	HEAT SINK SPTE H=25
Z242	EU01121	EYELET CG-10001 DIA 1.6	NPD1	MJ03595	SCRW M3M_3*12PN+SM Unknown
Z243	EU01121	EYELET CG-10001 DIA 1.6	NPD2	MJ03595	SCRW M3M_3*12PN+SM Unknown
Z244	EU01121	EYELET CG-10001 DIA 1.6	NPD4	MJ03595	SCRW M3M_3*12PN+SM Unknown
Z250	EU01121	EYELET CG-10001 DIA 1.6	NPF1	2721351	FUSE HOLDER
Z251	EU01121	EYELET CG-10001 DIA 1.6	NPI1	MJ03595	SCRW M3M_3*12PN+SM Unknown
Z252	EU01121	EYELET CG-10001 DIA 1.6	ZNS1	9414017W	SILICONE COMPOUND(G-746)
Z253	EU01121	EYELET CG-10001 DIA 1.6			
Z254	EU01121	EYELET CG-10001 DIA 1.6			**SENSOR/IR PWB**
Z255	EU01121	EYELET CG-10001 DIA 1.6	CL07	0800326R	CAP.-ELECTRO. 100UF-M 16V
Z256	EU01121	EYELET CG-10001 DIA 1.6	CL08	0880194R	CAP.-POLYESTER 0.1UF-J 50V
Z257	EU01121	EYELET CG-10001 DIA 1.6	CL10	0880048R	CAP.-POLYESTER 0.022UF-KEB 50V
Z258	EU01121	EYELET CG-10001 DIA 1.6	CL11	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
Z259	EU01121	EYELET CG-10001 DIA 1.6	CL12	0880048R	CAP.-POLYESTER 0.022UF-KEB 50V
Z260	EU01121	EYELET CG-10001 DIA 1.6	CL13	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
Z261	EU01121	EYELET CG-10001 DIA 1.6	CL14	0880048R	CAP.-POLYESTER 0.022UF-KEB 50V
Z262	EU01121	EYELET CG-10001 DIA 1.6	CL15	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
Z263	EU01121	EYELET CG-10001 DIA 1.6	CL16	0880048R	CAP.-POLYESTER 0.022UF-KEB 50V
Z264	EU01121	EYELET CG-10001 DIA 1.6	CL17	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
Z265	EU01121	EYELET CG-10001 DIA 1.6			
Z266	EU01121	EYELET CG-10001 DIA 1.6			DIODES
Z267	EU01121	EYELET CG-10001 DIA 1.6	DL10	2344041M	DIODE 1SS254TA/1SS270TA
Z268	EU01121	EYELET CG-10001 DIA 1.6	DL11	2344041M	DIODE 1SS254TA/1SS270TA
Z269	EU01121	EYELET CG-10001 DIA 1.6	DL12	2344041M	DIODE 1SS254TA/1SS270TA
Z270	EU01121	EYELET CG-10001 DIA 1.6	DL13	2344041M	DIODE 1SS254TA/1SS270TA
Z271	EU01121	EYELET CG-10001 DIA 1.6	DL14	2344041M	DIODE 1SS254TA/1SS270TA
Z272	EU01121	EYELET CG-10001 DIA 1.6	DL15	2344041M	DIODE 1SS254TA/1SS270TA
Z275	EU01121	EYELET CG-10001 DIA 1.6	DL16	2344041M	DIODE 1SS254TA/1SS270TA
Z276	EU01121	EYELET CG-10001 DIA 1.6	DL17	2344041M	DIODE 1SS254TA/1SS270TA
Z277	EU01121	EYELET CG-10001 DIA 1.6	DL20	2348142M	ZENER MTZ-J7.5BTA
Z278	EU01121	EYELET CG-10001 DIA 1.6	DL21	2348142M	ZENER MTZ-J7.5BTA
Z283	EU01121	EYELET CG-10001 DIA 1.6	DL22	2348142M	ZENER MTZ-J7.5BTA
Z284	EU01121	EYELET CG-10001 DIA 1.6	DL23	2348142M	ZENER MTZ-J7.5BTA
Z285	EU01121	EYELET CG-10001 DIA 1.6	DL24	2348142M	ZENER MTZ-J7.5BTA
Z286	EU01121	EYELET CG-10001 DIA 1.6	DL25	2348142M	ZENER MTZ-J7.5BTA
Z287	EU01121	EYELET CG-10001 DIA 1.6	DL26	2348142M	ZENER MTZ-J7.5BTA
Z288	EU01121	EYELET CG-10001 DIA 1.6	DL27	2348142M	ZENER MTZ-J7.5BTA
Z289	EU01121	EYELET CG-10001 DIA 1.6	DL30	2348162M	DIODE MTZ -J 9.1B TA
Z290	EU01121	EYELET CG-10001 DIA 1.6	DL31	2348162M	DIODE MTZ -J 9.1B TA
Z291	EU01121	EYELET CG-10001 DIA 1.6	DL32	2348162M	DIODE MTZ -J 9.1B TA
Z292	EU01121	EYELET CG-10001 DIA 1.6	DL33	2348162M	DIODE MTZ -J 9.1B TA
Z293	EU01121	EYELET CG-10001 DIA 1.6	DL34	2348162M	DIODE MTZ -J 9.1B TA
Z294	EU01121	EYELET CG-10001 DIA 1.6	DL35	2348162M	DIODE MTZ -J 9.1B TA
Z295	EU01121	EYELET CG-10001 DIA 1.6	DL36	2348162M	DIODE MTZ -J 9.1B TA
Z296	EU01121	EYELET CG-10001 DIA 1.6	DL37	2348162M	DIODE MTZ -J 9.1B TA
			DL40	2348142M	ZENER MTZ-J7.5BTA
		CONNECTORS, JACKS	DL41	2348142M	ZENER MTZ-J7.5BTA
PCB	ED00385	PLUG 6P LOCK 2.5MM JST	DL42	2348142M	ZENER MTZ-J7.5BTA
PCG	ED00385	PLUG 6P LOCK 2.5MM JST	DL43	2348142M	ZENER MTZ-J7.5BTA
PCR	ED00385	PLUG 6P LOCK 2.5MM JST	DL44	2348142M	ZENER MTZ-J7.5BTA
PDC1	ED00383	PLUG 4P JST2.5ROCK	DL45	2348142M	ZENER MTZ-J7.5BTA
PDF1	ED01596U	PLUG CP-04BP5R0VU-TBL#2	DL46	2348142M	ZENER MTZ-J7.5BTA
PDT2	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1	DL47	2348142M	ZENER MTZ-J7.5BTA
PDT3	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1			
PDT4	ED01491U	7P B-B CONNECTOR			JUMPER WIRES
PMB	ED01597U	PLUG CP-06BP5R0VU-TBL#3	KL02	2784381M	0.60MM TAPED JUMP.WIRE
PMG	ED01597U	PLUG CP-06BP5R0VU-TBL#3	KL03	2784381M	0.60MM TAPED JUMP.WIRE
PMR	ED01597U	PLUG CP-06BP5R0VU-TBL#3	KL04	2784381M	0.60MM TAPED JUMP.WIRE
PPDE	2674281	3P B-PLUG PIN	KL06	2784381M	0.60MM TAPED JUMP.WIRE
			KL07	2784381M	0.60MM TAPED JUMP.WIRE
		MISCELLANEOUS	KL08	2784381M	0.60MM TAPED JUMP.WIRE
			KL09	2784381M	0.60MM TAPED JUMP.WIRE
N601	MA01601	HEAT SINK (V) DP2X A1100P-H14	KL10	2784381M	0.60MM TAPED JUMP.WIRE
N602	MJ03595	SCRW M3M_3*12PN+SM Unknown	KL11	2784381M	0.60MM TAPED JUMP.WIRE
N701	MA01661	H OUT HEAT SINK DP3X	KL12	2784381M	0.60MM TAPED JUMP.WIRE
N702	MJ03595	SCRW M3M_3*12PN+SM Unknown	KL13	2784381M	0.60MM TAPED JUMP.WIRE

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
KL14	2784381M	0.60MM TAPED JUMP.WIRE	C858	0880194R	CAP.-POLYESTER 0.1UF-J 50V
KL16	2784381M	0.60MM TAPED JUMP.WIRE	C862	AJ00559F	CC-222K202YBDF10
KL17	2784381M	0.60MM TAPED JUMP.WIRE	C863	AL00025R	CAP.ALMI 2.2UF250V
KL18	2784381M	0.60MM TAPED JUMP.WIRE	C871	0800326R	CAP.-ELECTRO. 100UF-M 16V
KL20	2784381M	0.60MM TAPED JUMP.WIRE	C872	0800326R	CAP.-ELECTRO. 100UF-M 16V
KL21	2784381M	0.60MM TAPED JUMP.WIRE	C8A1	0890077R	CAP.-CERAMIC 180PF-K 50V
KL22	2784381M	0.60MM TAPED JUMP.WIRE	C8A2	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
			C8A3	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
		COILS	C8A4	AL00031R	CAP.-ELECTORO. 33UF-M 250V
LL01	2125811N	FILT.COIL(LHL08 100UH)	C8A7	0800352R	CAP.-ELECTRO.470UF 10V
			C8A8	0880194R	CAP.-POLYESTER 0.1UF-J 50V
		TRANSISTORS	C8A9	0800352R	CAP.-ELECTRO.470UF 10V
QL10	CF02771R	TRS. KTA1270	C8C2	AJ00559F	CC-222K202YBDF10
QL11	CF02771R	TRS. KTA1270	C8C3	AL00025R	CAP.ALMI 2.2UF250V
QL12	CF02771R	TRS. KTA1270	C8C5	0800326R	CAP.-ELECTRO. 100UF-M 16V
QL13	CF02771R	TRS. KTA1270	CE01	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
QL14	CF02771R	TRS. KTA1270	CE03	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
QL15	CF02771R	TRS. KTA1270	CE04	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
QL16	CF02771R	TRS. KTA1270	CE06	0244509R	CAP.-CERAMIC 4700PF-KB B 500V
QL17	CF02771R	TRS. KTA1270	CE07	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
			CE08	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
		RESISTORS	CE09	AL00027R	CAP.-ELECTORO. 4.7UF-M 250V
RL10	0100129M	RES.-CARBON FLM 1/8W 470K-JB	CE10	0800326R	CAP.-ELECTRO. 100UF-M 16V
RL11	0100129M	RES.-CARBON FLM 1/8W 470K-JB	CE12	AL00032R	CAP.-ELECTORO. 47UF-M 250V
RL12	0100129M	RES.-CARBON FLM 1/8W 470K-JB	CE13	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
RL13	0100129M	RES.-CARBON FLM 1/8W 470K-JB	CE14	0246836R	CAP.CERAMIC 18PF 500V TAPE
RL14	0100129M	RES.-CARBON FLM 1/8W 470K-JB	CE16	AL00025R	CAP.ALMI 2.2UF250V
RL15	0100129M	RES.-CARBON FLM 1/8W 470K-JB	CE51	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
RL16	0100129M	RES.-CARBON FLM 1/8W 470K-JB	CE53	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
RL17	0100129M	RES.-CARBON FLM 1/8W 470K-JB	CE54	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
RL20	0100125M	RES.-CARBON FLM 1/8W 330K-JB	CE56	0244509R	CAP.-CERAMIC 4700PF-KB B 500V
RL21	0700064M	RES.-CARBON FLM 1/16W 56K-JB	CE57	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
RL22	0100125M	RES.-CARBON FLM 1/8W 330K-JB	CE58	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
RL23	0100127M	RES.-CARBON FLM 1/8W 390K-JB	CE60	AL00032R	CAP.-ELECTORO. 47UF-M 250V
RL24	0100129M	RES.-CARBON FLM 1/8W 470K-JB	CE61	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
RL25	0700066M	RES.-CARBON FLM 1/16W 82K-JB	CE62	0246836R	CAP.CERAMIC 18PF 500V TAPE
RL26	0100125M	RES.-CARBON FLM 1/8W 330K-JB	CE63	AL00027R	CAP.-ELECTORO. 4.7UF-M 250V
RL27	0100123M	RES.-CARBON FLM 1/8W 270K-JB	CEA1	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
RL30	0700027M	RES.-CARBON FLM 1/16W 100-JB	CEA3	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
RL31	0700027M	RES.-CARBON FLM 1/16W 100-JB	CEA4	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
RL32	0700027M	RES.-CARBON FLM 1/16W 100-JB	CEA6	0244509R	CAP.-CERAMIC 4700PF-KB B 500V
RL33	0700027M	RES.-CARBON FLM 1/16W 100-JB	CEA7	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
RL34	0700027M	RES.-CARBON FLM 1/16W 100-JB	CEA8	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
RL35	0700027M	RES.-CARBON FLM 1/16W 100-JB	CEC1	AL00025R	CAP.ALMI 2.2UF250V
RL36	0700027M	RES.-CARBON FLM 1/16W 100-JB	CEC2	AL00032R	CAP.-ELECTORO. 47UF-M 250V
RL37	0700027M	RES.-CARBON FLM 1/16W 100-JB	CEC3	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
			CEC4	0246836R	CAP.CERAMIC 18PF 500V TAPE
		CONNECTORS, JACKS	CEC5	AL00027R	CAP.-ELECTORO. 4.7UF-M 250V
PDSE	ED00389	PLUG 10P WITH LOCK	CM02	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
PS1	2959058	PINPOST 9P PH	CM06	0880194R	CAP.-POLYESTER 0.1UF-J 50V
PS2	2959059	PLUG PH PIN POST 10P	CM09	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
PS3	2959055	CONNECTOR-6P(PH)	CM10	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
			CM11	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
		MISCELLANEOUS	CM12	0800318R	CAP.-ELECTRO. 47UF-M 25V
			CM14	0880194R	CAP.-POLYESTER 0.1UF-J 50V
			CM16	0880194R	CAP.-POLYESTER 0.1UF-J 50V
		CONTROL/CPT PWB	CM17	0800325R	CAP.-ELECTRO. 100UF-M 10V
		CAPACITORS			DIODES
C801	0890078R	CAP.-CERAMIC 220PF-K 50V	D801	2344041M	DIODE 1SS254TA/1SS270TA
C802	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	D802	2344041M	DIODE 1SS254TA/1SS270TA
C803	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	D803	2344041M	DIODE 1SS254TA/1SS270TA
C804	0299622F	CAPACITOR-POLYPROPYLENE FILM 0.01UF-J 630V	D804	2344041M	DIODE 1SS254TA/1SS270TA
C805	AL00031R	CAP.-ELECTORO. 33UF-M 250V	D806	2344041M	DIODE 1SS254TA/1SS270TA
C807	0800352R	CAP.-ELECTRO.470UF 10V	D808	2344041M	DIODE 1SS254TA/1SS270TA
C808	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	D809	2344041M	DIODE 1SS254TA/1SS270TA
C812	AJ00559F	CC-222K202YBDF10	D813	CH02001M	DIODE 1SR139-400
C813	AL00025R	CAP.ALMI 2.2UF250V	D814	CH02001M	DIODE 1SR139-400
C814	0800326R	CAP.-ELECTRO. 100UF-M 16V	D815	CH02001M	DIODE 1SR139-400
C817	0800326R	CAP.-ELECTRO. 100UF-M 16V	D816	CH02001M	DIODE 1SR139-400
C851	0890077R	CAP.-CERAMIC 180PF-K 50V	D817	2348212M	ZENER DIODE MTZ-J15B
C852	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	D851	2344041M	DIODE 1SS254TA/1SS270TA
C853	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	D852	2344041M	DIODE 1SS254TA/1SS270TA
C854	AL00031R	CAP.-ELECTORO. 33UF-M 250V	D853	2344041M	DIODE 1SS254TA/1SS270TA
C857	0800352R	CAP.-ELECTRO.470UF 10V	D854	2344041M	DIODE 1SS254TA/1SS270TA

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SYMBOL	PART #	DESCRIPTION
D856	2344041M	DIODE 1SS254TA/1SS270TA
D858	2344041M	DIODE 1SS254TA/1SS270TA
D859	2344041M	DIODE 1SS254TA/1SS270TA
D860	2348212M	ZENER DIODE MTZ-J15B
D863	CH02001M	DIODE 1SR139-400
D864	CH02001M	DIODE 1SR139-400
D865	CH02001M	DIODE 1SR139-400
D866	CH02001M	DIODE 1SR139-400
D8A1	2344041M	DIODE 1SS254TA/1SS270TA
D8A2	2344041M	DIODE 1SS254TA/1SS270TA
D8A3	2344041M	DIODE 1SS254TA/1SS270TA
D8A4	2344041M	DIODE 1SS254TA/1SS270TA
D8A5	2344041M	DIODE 1SS254TA/1SS270TA
D8A6	2344041M	DIODE 1SS254TA/1SS270TA
D8A7	2344041M	DIODE 1SS254TA/1SS270TA
D8C3	CH02001M	DIODE 1SR139-400
D8C4	CH02001M	DIODE 1SR139-400
D8C5	CH02001M	DIODE 1SR139-400
D8C6	CH02001M	DIODE 1SR139-400
DE01	2344041M	DIODE 1SS254TA/1SS270TA
DE02	2344041M	DIODE 1SS254TA/1SS270TA
DE05	CH02001M	DIODE 1SR139-400
DE06	CH02001M	DIODE 1SR139-400
DE07	CH02001M	DIODE 1SR139-400
DE08	CH02001M	DIODE 1SR139-400
DE09	2344041M	DIODE 1SS254TA/1SS270TA
DE10	2344041M	DIODE 1SS254TA/1SS270TA
DE51	2344041M	DIODE 1SS254TA/1SS270TA
DE52	2344041M	DIODE 1SS254TA/1SS270TA
DE55	CH02001M	DIODE 1SR139-400
DE56	CH02001M	DIODE 1SR139-400
DE57	CH02001M	DIODE 1SR139-400
DE58	CH02001M	DIODE 1SR139-400
DE59	2344041M	DIODE 1SS254TA/1SS270TA
DE60	2344041M	DIODE 1SS254TA/1SS270TA
DEA1	2344041M	DIODE 1SS254TA/1SS270TA
DEA2	2344041M	DIODE 1SS254TA/1SS270TA
DEA5	CH02001M	DIODE 1SR139-400
DEA6	CH02001M	DIODE 1SR139-400
DEA7	CH02001M	DIODE 1SR139-400
DEA8	CH02001M	DIODE 1SR139-400
DEC0	2344041M	DIODE 1SS254TA/1SS270TA
DEC9	2344041M	DIODE 1SS254TA/1SS270TA
DM04	2348212M	ZENER DIODE MTZ-J15B
DM05	2348212M	ZENER DIODE MTZ-J15B
DM07	2348212M	ZENER DIODE MTZ-J15B
DM08	2348212M	ZENER DIODE MTZ-J15B
DM09	2348212M	ZENER DIODE MTZ-J15B
DM10	2348212M	ZENER DIODE MTZ-J15B
DM11	2348212M	ZENER DIODE MTZ-J15B
DM12	2348123M	ZENER MTZJ-6.2C TA
DM18	2348212M	ZENER DIODE MTZ-J15B
DM20	2348212M	ZENER DIODE MTZ-J15B
DM22	CH02671	LED SR3517F6 (RED)
		MODULES
HM01	CZ01171	GP1UM281RK0F
		JUMPER WIRES
K801	2784381M	0.60MM TAPED JUMP.WIRE
K802	2784381M	0.60MM TAPED JUMP.WIRE
K803	2784381M	0.60MM TAPED JUMP.WIRE
K804	2784381M	0.60MM TAPED JUMP.WIRE
K805	2784381M	0.60MM TAPED JUMP.WIRE
K806	2784381M	0.60MM TAPED JUMP.WIRE
K807	2784381M	0.60MM TAPED JUMP.WIRE
K808	2784381M	0.60MM TAPED JUMP.WIRE
K809	2784381M	0.60MM TAPED JUMP.WIRE
K810	2784381M	0.60MM TAPED JUMP.WIRE
K811	2784381M	0.60MM TAPED JUMP.WIRE
K812	2784381M	0.60MM TAPED JUMP.WIRE
K813	2784381M	0.60MM TAPED JUMP.WIRE
K814	2784381M	0.60MM TAPED JUMP.WIRE
K815	2784381M	0.60MM TAPED JUMP.WIRE
K816	2784381M	0.60MM TAPED JUMP.WIRE
K817	2784381M	0.60MM TAPED JUMP.WIRE
K818	2784381M	0.60MM TAPED JUMP.WIRE
K819	2784381M	0.60MM TAPED JUMP.WIRE
K820	2784381M	0.60MM TAPED JUMP.WIRE
K821	2784381M	0.60MM TAPED JUMP.WIRE
K822	2784381M	0.60MM TAPED JUMP.WIRE
K823	2784381M	0.60MM TAPED JUMP.WIRE
K824	2784381M	0.60MM TAPED JUMP.WIRE
K825	2784381M	0.60MM TAPED JUMP.WIRE
K826	2784381M	0.60MM TAPED JUMP.WIRE
K827	2784381M	0.60MM TAPED JUMP.WIRE
K828	2784381M	0.60MM TAPED JUMP.WIRE
K829	2784381M	0.60MM TAPED JUMP.WIRE
K830	2784381M	0.60MM TAPED JUMP.WIRE
K831	2784381M	0.60MM TAPED JUMP.WIRE
K832	2784381M	0.60MM TAPED JUMP.WIRE
K833	2784381M	0.60MM TAPED JUMP.WIRE
K834	2784381M	0.60MM TAPED JUMP.WIRE
K835	2784381M	0.60MM TAPED JUMP.WIRE
K836	2784381M	0.60MM TAPED JUMP.WIRE
K837	2784381M	0.60MM TAPED JUMP.WIRE
K838	2784381M	0.60MM TAPED JUMP.WIRE
K839	2784381M	0.60MM TAPED JUMP.WIRE
K840	2784381M	0.60MM TAPED JUMP.WIRE
K841	2784381M	0.60MM TAPED JUMP.WIRE
KA07	2784381M	0.60MM TAPED JUMP.WIRE
KA10	2784381M	0.60MM TAPED JUMP.WIRE
KG05	2784381M	0.60MM TAPED JUMP.WIRE
KG07	2784381M	0.60MM TAPED JUMP.WIRE
KM01	2784381M	0.60MM TAPED JUMP.WIRE
KM03	2784381M	0.60MM TAPED JUMP.WIRE
KM06	2784381M	0.60MM TAPED JUMP.WIRE
KM09	2784381M	0.60MM TAPED JUMP.WIRE
KM11	2784381M	0.60MM TAPED JUMP.WIRE
KM17	2784381M	0.60MM TAPED JUMP.WIRE
KM19	2784381M	0.60MM TAPED JUMP.WIRE
KM31	2784381M	0.60MM TAPED JUMP.WIRE
KM32	2784381M	0.60MM TAPED JUMP.WIRE
KM33	2784381M	0.60MM TAPED JUMP.WIRE
KM34	2784381M	0.60MM TAPED JUMP.WIRE
KM35	2784381M	0.60MM TAPED JUMP.WIRE
KM37	2784381M	0.60MM TAPED JUMP.WIRE
KM38	2784381M	0.60MM TAPED JUMP.WIRE
KM39	2784381M	0.60MM TAPED JUMP.WIRE
KM40	2784381M	0.60MM TAPED JUMP.WIRE
KM41	2784381M	0.60MM TAPED JUMP.WIRE
KM42	2784381M	0.60MM TAPED JUMP.WIRE
KM43	2784381M	0.60MM TAPED JUMP.WIRE
KM45	2784381M	0.60MM TAPED JUMP.WIRE
KR01	2784381M	0.60MM TAPED JUMP.WIRE
KR07	2784381M	0.60MM TAPED JUMP.WIRE
KR10	2784381M	0.60MM TAPED JUMP.WIRE
		PROTECTORS
G801 ⚠	CJ00071R	SPARK GAP 1.5KV
G802 ⚠	CJ00071R	SPARK GAP 1.5KV
G851 ⚠	CJ00071R	SPARK GAP 1.5KV
G852 ⚠	CJ00071R	SPARK GAP 1.5KV
G8A1 ⚠	CJ00071R	SPARK GAP 1.5KV
G8A2 ⚠	CJ00071R	SPARK GAP 1.5KV
		COILS
L801	BH00679R	COIL 4.7UH
L802	BH00679R	COIL 4.7UH
L803	BH00685R	COIL 12UH
L805	BH00673R	COIL 1.5UH
L806	BH00697R	FILTER COIL 100UH
L852	BH00683R	COIL 8.2UH(FLR50)
L853	BH00682R	COIL 6.8UH
L854	BH00683R	COIL 8.2UH(FLR50)
L855	BH00677R	COIL 3.3UH
L856	BH00697R	FILTER COIL 100UH
L8A1	BH00679R	COIL 4.7UH
L8A2	BH00676R	COIL 2.7UH
L8A3	BH00685R	COIL 12UH

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
L8A4	BH00683R	COIL 8.2UH(FLR50)	R814	0100035M	RES.-CARBON FLM 1/8W 56-JB
L8A5	BH00675R	COIL 2.2UH	R815	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
L8A6	BH00697R	FILTER COIL 100UH	R816	AT03906M	470KOHM 1/2W RDS50 CARBON FILM RESISTOR
L8A7	BH00671R	COIL 1.0UH	R821	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
LE02	BH01341M	COIL FERRITE BEADS 0.8UH	R822	0100054M	RES.-CARBON FLM 1/8W 360-JB
LE03	BH01341M	COIL FERRITE BEADS 0.8UH	R823	0100065M	RES.-CARBON FLM 1/8W 1K-JB
LE04	BH01341M	COIL FERRITE BEADS 0.8UH	R830	0100049M	RES.-CARBON FLM 1/8W 220-JB
LE07	BH00697R	FILTER COIL 100UH	R831	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB
LE52	BH01341M	COIL FERRITE BEADS 0.8UH	R832	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB
LE53	BH01341M	COIL FERRITE BEADS 0.8UH	R833	0100017M	RES.-CARBON FLM 1/8W 10-JB
LE54	BH01341M	COIL FERRITE BEADS 0.8UH	R834	0100017M	RES.-CARBON FLM 1/8W 10-JB
LE57	BH00697R	FILTER COIL 100UH	R852	0100035M	RES.-CARBON FLM 1/8W 56-JB
LEA2	BH01341M	COIL FERRITE BEADS 0.8UH	R853	0100031M	RES.-CARBON FLM 1/8W 39-JB
LEA3	BH01341M	COIL FERRITE BEADS 0.8UH	R854	0100017M	RES.-CARBON FLM 1/8W 10-JB
LEA4	BH01341M	COIL FERRITE BEADS 0.8UH	R855	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
LEA7	BH00697R	FILTER COIL 100UH	R856	AT00116M	RES.CARBON FLM 1/2W 9.1 OHM
			R857	AT03867M	560OHM 1/2W RDS50 CARBON FILM RESISTOR
		TRANSISTORS	R858	0100113M	RES.-CARBON FLM 1/8W 100K-JB
Q801	2327471F	TRS.2SC3950 (HIT D/E)	R859	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR
Q802	CF02981R	2SC5343YT_PF	R861	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)
Q803	2312372F	TRS-2SC3942	R862	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)
Q804	2312773F	TRS-2SA1546(2)M/L	R863	0100035M	RES.-CARBON FLM 1/8W 56-JB
Q805	2312372F	TRS-2SC3942	R864	0100035M	RES.-CARBON FLM 1/8W 56-JB
Q806	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW	R865	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
Q812	2312372F	TRS-2SC3942	R866	AT03906M	470KOHM 1/2W RDS50 CARBON FILM RESISTOR
Q851	2327471F	TRS.2SC3950 (HIT D/E)	R880	0100049M	RES.-CARBON FLM 1/8W 220-JB
Q852	CF02981R	2SC5343YT_PF	R881	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB
Q853	2312372F	TRS-2SC3942	R882	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB
Q854	2312773F	TRS-2SA1546(2)M/L	R883	0100089M	RES.-CARBON FLM 1/8W 10K-JB
Q855	2312372F	TRS-2SC3942	R884	0100105M	RES.-CARBON FLM 1/8W 47K-JB
Q856	CF02981R	2SC5343YT_PF	R885	0100017M	RES.-CARBON FLM 1/8W 10-JB
Q862	2312372F	TRS-2SC3942	R886	0100017M	RES.-CARBON FLM 1/8W 10-JB
Q8A1	2327471F	TRS.2SC3950 (HIT D/E)	R8A2	0100035M	RES.-CARBON FLM 1/8W 56-JB
Q8A2	CF02981R	2SC5343YT_PF	R8A3	0100040M	RES.-CARBON FLM 1/8W 91-JB
Q8A3	2312372F	TRS-2SC3942	R8A4	0100017M	RES.-CARBON FLM 1/8W 10-JB
Q8A4	2312773F	TRS-2SA1546(2)M/L	R8A5	0100057M	RES.-CARBON FLM 1/8W 470-JB
Q8A5	2312372F	TRS-2SC3942	R8A6	AT00116M	RES.CARBON FLM 1/2W 9.1 OHM
Q8A6	CF02991R	2SA1979YT_PF	R8A7	AT03867M	560OHM 1/2W RDS50 CARBON FILM RESISTOR
Q8A7	CF02981R	2SC5343YT_PF	R8A8	0100113M	RES.-CARBON FLM 1/8W 100K-JB
Q8A8	CF02981R	2SC5343YT_PF	R8A9	AT03873M	1.5KOHM 1/2W RDS50 CARBON FILM RESISTOR
Q8C2	2312372F	TRS-2SC3942	R8C1	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)
QE01	CF02981R	2SC5343YT_PF	R8C2	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)
QE02	CF02981R	2SC5343YT_PF	R8C3	0100035M	RES.-CARBON FLM 1/8W 56-JB
QE03	CF02991R	2SA1979YT_PF	R8C4	0100035M	RES.-CARBON FLM 1/8W 56-JB
QE06	2315381	TRS. 2SA1837	R8C5	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
QE07	2315391	TRS. 2SC4793	R8C6	AT03906M	470KOHM 1/2W RDS50 CARBON FILM RESISTOR
QE08	2326821R	TRANSISTOR 2SA1371 (E/F)	R8E0	0100041M	RES.-CARBON FLM 1/8W 100-JB
QE51	CF02981R	2SC5343YT_PF	R8E2	0100057M	RES.-CARBON FLM 1/8W 470-JB
QE52	CF02981R	2SC5343YT_PF	R8E3	0100059M	RES.-CARBON FLM 1/8W 560-JB
QE53	CF02991R	2SA1979YT_PF	R8E4	0100079M	RES.-CARBON FLM 1/8W 3.9K-JB
QE56	2315381	TRS. 2SA1837	R8E5	0100043M	RES.-CARBON FLM 1/8W 120-JB
QE57	2315391	TRS. 2SC4793	R8E6	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB
QEA1	CF02981R	2SC5343YT_PF	R8E7	0100069M	RES.-CARBON FLM 1/8W 1.5K-JB
QEA2	CF02981R	2SC5343YT_PF	R8E8	0100047M	RES.-CARBON FLM 1/8W 180-JB
QEA3	CF02991R	2SA1979YT_PF	R8F0	0100049M	RES.-CARBON FLM 1/8W 220-JB
QEA6	2315381	TRS. 2SA1837	R8F1	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB
QEA7	2315391	TRS. 2SC4793	R8F2	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB
QEA8	2326821R	TRANSISTOR 2SA1371 (E/F)	R8F3	0100017M	RES.-CARBON FLM 1/8W 10-JB
QM03	CF02981R	2SC5343YT_PF	R8F4	0100017M	RES.-CARBON FLM 1/8W 10-JB
QM04	CF02981R	2SC5343YT_PF	RE01	0700017M	RES.-CARBON FLM 1/16W 18-J
QM05	CF02981R	2SC5343YT_PF	RE02	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR
QM09	CF02981R	2SC5343YT_PF	RE03	0700014M	RES.-CARBON FLM 1/16W 10-J
			RE04	0700014M	RES.-CARBON FLM 1/16W 10-J
		RESISTORS	RE05	AT03844M	10.0OHM 1/2W RDS50 CARBON FILM RESISTOR
R802	0100035M	RES.-CARBON FLM 1/8W 56-JB	RE12	0100017M	RES.-CARBON FLM 1/8W 10-JB
R803	0100031M	RES.-CARBON FLM 1/8W 39-JB	RE13	0100017M	RES.-CARBON FLM 1/8W 10-JB
R804	0100017M	RES.-CARBON FLM 1/8W 10-JB	RE15	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR
R805	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB	RE16	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR
R806	AT00116M	RES.CARBON FLM 1/2W 9.1 OHM	RE18	AT03876M	2.7KOHM 1/2W RDS50 CARBON FILM RESISTOR
R807	AT03867M	560OHM 1/2W RDS50 CARBON FILM RESISTOR	RE19	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB
R808	0100113M	RES.-CARBON FLM 1/8W 100K-JB	RE20	AT03885M	12KOHM 1/2W RDS50 CARBON FILM RESISTOR
R809	AT03873M	1.5KOHM 1/2W RDS50 CARBON FILM RESISTOR	RE21	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR
R811	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)	RE22	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR
R812	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)	RE23	0113686M	RES.-CARBON FLM 1/2W 2.7-J
R813	0100035M	RES.-CARBON FLM 1/8W 56-JB	RE24	0113686M	RES.-CARBON FLM 1/2W 2.7-J

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
RE25	AT03571S	METAL OX. 220OHM 3W			SWITCHES
RE27	AT03579S	METAL OX. 470OHM 3W	SM01	FE10402R	PUSH SWITCH SKQNAB
RE29	0100081M	RES.-CARBON FLM 1/8W 4.7K-JB	SM02	FE10402R	PUSH SWITCH SKQNAB
RE31	0100089M	RES.-CARBON FLM 1/8W 10K-JB	SM03	FE10402R	PUSH SWITCH SKQNAB
RE34	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	SM04	FE10402R	PUSH SWITCH SKQNAB
RE35	AT00287S	RES.MTL OXIDE FLM 3W 2.2 OHM	SM05	FE10402R	PUSH SWITCH SKQNAB
RE51	0700017M	RES.-CARBON FLM 1/16W 18-J	SM06	FE10402R	PUSH SWITCH SKQNAB
RE52	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	SM07	FE10402R	PUSH SWITCH SKQNAB
RE53	0700014M	RES.-CARBON FLM 1/16W 10-J	SM09	FE10402R	PUSH SWITCH SKQNAB
RE54	0700014M	RES.-CARBON FLM 1/16W 10-J			
RE55	AT03844M	10.0OHM 1/2W RDS50 CARBON FILM RESISTOR			CONNECTORS, JACKS
RE62	0100017M	RES.-CARBON FLM 1/8W 10-JB	E801 ⚠	EY01353	SOCKET CVT3248-1298T
RE63	0100017M	RES.-CARBON FLM 1/8W 10-JB	E851 ⚠	EY01353	SOCKET CVT3248-1298T
RE66	AT03876M	2.7KOHM 1/2W RDS50 CARBON FILM RESISTOR	E8A1 ⚠	EY01353	SOCKET CVT3248-1298T
RE67	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR	EGB1	2909684	2.0MM PITCH 9J BOARD-IN CONNECTOR L=330MM
RE68	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR	EGB2	2964991S	CO-06B-B2R5-471
RE69	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB	ERG1	2909654	2.0MM PITCH 8J BOARD-IN CONNECTOR L=330MM
RE70	AT03885M	12KOHM 1/2W RDS50 CARBON FILM RESISTOR	ERG2	2964991S	CO-06B-B2R5-471
RE71	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	JM01	ER00961	JACK LAP5030-0501F S+3P
RE72	0113686M	RES.-CARBON FLM 1/2W 2.7-J	P801	ED03173	3P MINI CONNE.PLUG TV-50P-03V3
RE73	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	P802	2661756	1P PLUG PIN WITH BASE
RE74	0113686M	RES.-CARBON FLM 1/2W 2.7-J	P851	ED03173	3P MINI CONNE.PLUG TV-50P-03V3
RE75	AT03571S	METAL OX. 220OHM 3W	P852	2661756	1P PLUG PIN WITH BASE
REA1	0700017M	RES.-CARBON FLM 1/16W 18-J	P8A1	ED03173	3P MINI CONNE.PLUG TV-50P-03V3
REA2	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	P8A2	2661756	1P PLUG PIN WITH BASE
REA3	0700014M	RES.-CARBON FLM 1/16W 10-J	PBV	2661751	2P PLUG PIN WITH BASE
REA4	0700014M	RES.-CARBON FLM 1/16W 10-J	PCT	2902272	PLUG PIN SUB MINI 12P
REA5	AT03844M	10.0OHM 1/2W RDS50 CARBON FILM RESISTOR	PDC1	ED00383	PLUG 4P JST2.5ROCK
REC3	0100017M	RES.-CARBON FLM 1/8W 10-JB	PFS	ED02832	2.5MM PITCH 13P XA PLUG (H)
REC4	0100017M	RES.-CARBON FLM 1/8W 10-JB	PFT1	ED02829	2.5MM PITCH 11P XA PLUG (H)
REC7	AT03876M	2.7KOHM 1/2W RDS50 CARBON FILM RESISTOR	PGV	2661751	2P PLUG PIN WITH BASE
REC8	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR	PRV	2661751	2P PLUG PIN WITH BASE
REC9	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR	PTSB	2902261	PLUG PIN SUB MINI 2P
REE1	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB	PTSG	2902261	PLUG PIN SUB MINI 2P
REE2	AT03885M	12KOHM 1/2W RDS50 CARBON FILM RESISTOR	PTSR	2902261	PLUG PIN SUB MINI 2P
REE3	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	PVMB	2902263	PLUG PIN SUB MINI 4P
REE4	0113686M	RES.-CARBON FLM 1/2W 2.7-J	PVMG	2902263	PLUG PIN SUB MINI 4P
REE5	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	PVMR	2902263	PLUG PIN SUB MINI 4P
REE6	0113686M	RES.-CARBON FLM 1/2W 2.7-J	W801 ⚠	EK00061	WIRE (PROCESSED)
REE7	AT03571S	METAL OX. 220OHM 3W	W802	2692463	CONNECTOR FOR FOCUS
REE9	0700027M	RES.-CARBON FLM 1/16W 100-JB	W851 ⚠	EK00061	WIRE (PROCESSED)
REF1	0100021M	RES.-CARBON FLM 1/8W 15-JB	W852	2692463	CONNECTOR FOR FOCUS
REF2	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR	W8A1 ⚠	EK00062	WIRE (PROCESSED) FOR SCREEN
REF4	0700027M	RES.-CARBON FLM 1/16W 100-JB	W8A2	2692464	CO-01C-N0R0-821FOCUS
REF5	0700067M	RES.-CARBON FLM 1/16W 100K-JB			
REF6	0700027M	RES.-CARBON FLM 1/16W 100-JB			MISCELLANEOUS
RM01	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB			
RM06	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	N801	3763751	SK BINDER
RM07	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	N803	4340676	HEATSINK A6MM
RM08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	N803N	MJ03595	SCRW M3M_3*12PN+SM Unknown
RM09	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	N853	4340676	HEATSINK A6MM
RM10	0100065M	RES.-CARBON FLM 1/8W 1K-JB	N853N	MJ03595	SCRW M3M_3*12PN+SM Unknown
RM15	0700054M	RES.-CARBON FLM 1/16W 10K-JB	N8A3	4340676	HEATSINK A6MM
RM20	0100041M	RES.-CARBON FLM 1/8W 100-JB	N8A3N	MJ03595	SCRW M3M_3*12PN+SM Unknown
RM21	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	NCPTB	MD07623	CPT PWB SHIELD DP3X SPTE
RM22	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	NCPTB1	NJ21571	CPT PWB SUP HOLDER
RM23	0700064M	RES.-CARBON FLM 1/16W 56K-JB	NCPTB2	MK00733	CPT SOCKET HOLDER BAND 2
RM24	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	NCPTB3	MJ03458	SCRW T2B_3*12BZ+ SWCH15A
RM25	0100123M	RES.-CARBON FLM 1/8W 270K-JB	NCPTG	MD07623	CPT PWB SHIELD DP3X SPTE
RM26	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	NCPTG1	NJ21571	CPT PWB SUP HOLDER
RM27	0700064M	RES.-CARBON FLM 1/16W 56K-JB	NCPTG2	MK00733	CPT SOCKET HOLDER BAND 2
RM28	0100123M	RES.-CARBON FLM 1/8W 270K-JB	NCPTG3	MJ03458	SCRW T2B_3*12BZ+ SWCH15A
RM29	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	NCPTR	MD07623	CPT PWB SHIELD DP3X SPTE
RM30	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	NCPTR1	NJ21571	CPT PWB SUP HOLDER
RM31	0100041M	RES.-CARBON FLM 1/8W 100-JB	NCPTR2	MK00733	CPT SOCKET HOLDER BAND 2
RM35	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	NCPTR3	MJ03458	SCRW T2B_3*12BZ+ SWCH15A
RM38	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	NE06	MA01272	HEAT SINK SPTE H=25
RM41	0700059M	RES.-CARBON FLM 1/16W 27K-JB	NE06N	MJ03595	SCRW M3M_3*12PN+SM Unknown
RM67	0700063M	RES.-CARBON FLM 1/16W 47K-JB	NE07	MA01272	HEAT SINK SPTE H=25
RM69	0700054M	RES.-CARBON FLM 1/16W 10K-JB	NE07N	MJ03595	SCRW M3M_3*12PN+SM Unknown
RM71	0700059M	RES.-CARBON FLM 1/16W 27K-JB	NE56	MA01272	HEAT SINK SPTE H=25
RM73	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	NE56N	MJ03595	SCRW M3M_3*12PN+SM Unknown
RM74	AT03866M	470OHM 1/2W RDS50 CARBON FILM RESISTOR	NE57	MA01272	HEAT SINK SPTE H=25
			NE57N	MJ03595	SCRW M3M_3*12PN+SM Unknown
			NEA6	MA01272	HEAT SINK SPTE H=25

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SYMBOL	PART #	DESCRIPTION
NEA6N	MJ03595	SCRW M3M_3*12PN+SM Unknown
NEA7	MA01272	HEAT SINK SPTE H=25
NEA7N	MJ03595	SCRW M3M_3*12PN+SM Unknown
Z1	9449598W	NITTOH TAPE NO.188
Z2	ZX03171	SILICON RUBBER SES-40W
		FINAL ASS'Y
		SPEAKERS
U402	GK01381	SP-16CM C160RB507-10
U404	GK01381	SP-16CM C160RB507-10
		ACCESSORIES
E203	FQ00021	DRY BATTERY(R6P-AA)
E301	HL02072	REMOTE CONTROL UNIT-CLU4351UG2
N201	QR64231	DP55 INST BOOK
N202	H462168	PTV WARRANTY CARD W/ C/R/C 04
N203	QT44782	LCD/PTV CANADA WARRANTY CARD #2
N206	QT46621	DP55 EASY GRAPH.GUID
		MISCELLANEOUS
#021 ⚠	UE25054	HSB-LXL 57 LENS CRT B.ASY (R2)
#022 ⚠	UE25055	HSB-LXL 57 LENS CRT B.ASY (G2)
#023 ⚠	UE25056	HSB-LXL 57 LENS CRT B.ASY (B2)
#032	NT04082	57F710A FRAME ASY
E003	GX00404	MAGNET-FERRITE CORE
E005	GX00405	MAG 2436-1330A CORE 13
E10B	GX00516	MAG VM COIL 2PAL-4P
E10G	GX00516	MAG VM COIL 2PAL-4P
E10R	GX00516	MAG VM COIL 2PAL-4P
E12B ⚠	BY01794	DY-V80-7SS(0.65)LH
E12G ⚠	BY01794	DY-V80-7SS(0.65)LH
E12R ⚠	BY01794	DY-V80-7SS(0.65)LH
EANT	HP00774	ANTENNA SWITCH BOX YAA41-0188N
		CONNECTORS, JACKS
E999 ⚠	EV00558	COD VM0284-192-C-NON Pb
EAN	2973729S	CO-04C-C2R5-221
ECT	2973984	12J CONNECTOR L=750MM
EDC1	EF03228S	CONNECTOR
EDF1	EF05942	4P CONNECTOR (L=680 N.C#2 3)
EFT1	EF23203	13P XA CONNECTOR 1100MM
EFT2	EF22132	CONNECTOR 11XA-XA1007-26/1347-24 1400
EL	EF22831	CON.03SM-FAS1007-22-L550
EPDE	EF22882	VH 3P CONNECTOR 680MM
ER	EF22851	CON.02SM-FAS1007-22-L550
ESET	EF23208	10P XA CONNECTOR 1500MM
ESF	2958152	CONN. W/WIRE 1J (L=550) W/CLIMP
ESP	EF22811	CON.06XA-02/03SM1007-22-1000
ETU1	2979173	PLUG WITH COAXIAL CABLE
ETU2	2979178	CO-1C-C****321
ETU3	2979178	CO-1C-C****321

SYMBOL	PART #	DESCRIPTION
		P.W.B.
#	UE24572	DP55 CHASSIS ASS'Y
#	JT25042	SENSOR/IR PWB
A	JT25012	SIGNAL PWB ASS'Y
A	JT25022	POWER PWB ASS'Y
A	JT25032	DEFLECTION PWB ASS'Y
A	JT25052	CPT PWB ASS'Y
A	JP08507	DIGITAL SUB PWB ASS'Y
A	JP08641	DIGITAL MAIN PWB ASS'Y
#001	UE24771	DP57 DIGITAL CORE B.ASY

QUICK REFERENCE PARTS LIST
IC'S & UNITS

No.	Symbol	P#	Description	Function	PWB ASSY	Remarks
1	A011	JP08641	DP55 MAIN DIGITAL PWB ASY	MAIN DIGITAL ASS'Y	MAIN DIGITAL	
2	A021	JP08507	DP55 SUB DIGITAL PWB ASY	SUB DIGITAL ASS'Y	SUB DIGITAL	
3	HM01	CZ01241	GP1FM514TZ0F	IR TRANSMITTING/ RECEIVER	SUBDIGITAL	
4	IM01	CK37218R	MONO IC TK11150CSCL	5 V VOLTAGE REGULATOR W ON/OFF SW (OPT AUDIO)	SUBDIGITAL	
5	IM02	CK50961R	SN74CB3T3306DCUR	DUAL FET BUS SWITCH (LEVEL CONVERTER 3.3V <=> 5V)	SUBDIGITAL	
6	IM03	CK38326R	IC SN74LVC1G32DCKR	SINGLE 2-INPUT POSITIVE-OR GATE	SUBDIGITAL	
7	IP02	CK38851R	MAX5026EUT-T	PWM STEP UP DC-DC CONVERTER (+34 V FOR VT)	SUBDIGITAL	
8	IP05	CK52131R	ANALOG MONOLITHIC IC(VT221H)	INTEGRATED STEP DOWN SWITCHING REGULATOR (D+3.3V)	SUBDIGITAL	
9	IP12	CK51331R	TK11100CSCB-G	ADJ POSITIVE LOW DROPOUT REGULATOR IC (ANALOG +5V)	SUBDIGITAL	
10	IPG1	CK33543R	ANALOG MONOLITHIC IC(PST9227N	SYSTEM RESET IC	SUBDIGITAL	
11	IPS1	CK52141R	ANALOG MONOLITHIC IC(SC4517AI	STEP DOWN SWITCHING REGULATOR (ANALOG +5V)	SUBDIGITAL	
12	IR01	CK50051R	MAX4788EXS-T	50mA/100mA CURRENT-LIMIT SWITCHES (FOR SD/MMC)	SUBDIGITAL	
13	IR02	CK38325R	DIGITAL MONOLITHIC IC (SN74LVC	SINGLE SCHMITT TRIGGER BUFFER	SUBDIGITAL	
14	IR03	CK38325R	DIGITAL MONOLITHIC IC (SN74LVC	SINGLE SCHMITT TRIGGER BUFFER	SUBDIGITAL	
15	IT01	CK37218R	MONO IC TK11150CSCL	5 V VOLTAGE REGULATOR W ON/OFF SW (FOR IF LOGIC)	SUBDIGITAL	
16	IT02	CK37605R	IC TK11250CM	5 V VOLTAGE REGULATOR W ON/OFF SW (FOR DIG TUNER)	SUBDIGITAL	
17	IT04	CK37218R	MONO IC TK11150CSCL	5 V VOLTAGE REGULATOR W ON/OFF SW (FOR OOB LOGIC)	SUBDIGITAL	
18	IT05	CK51131R	UPC2711TB	5V MMIC WIDEBAND AMPLIFIER (FOR OOB)	SUBDIGITAL	
19	IT06	CK51151R	UPC3221GV	5 V AGC AMPLIFIER	SUBDIGITAL	
20	IT07	CK51141R	UPC3220GR	CATV OUT-OF-BAND TUNER	SUBDIGITAL	
21	IT08	CK51121U	THEATER313	DIGITAL RECEIVER	SUBDIGITAL	
22	IT09	CK37211R	MONO IC TK11118CSCL	1.8 V VOLTAGE REGULATOR W ON/OFF SW (FOR IT08)	SUBDIGITAL	
23	IT13	CK50071R	TPS62040DGQR	HIGH EFFICIENCY STEP DOWN CONVERTER (1.1 V FOR IT08)	SUBDIGITAL	
24	IV01	CK51091R	SN74LVC1G3157DCKR	SINGLE-POLE, DOUBLE-THROW ANALOG SW	SUBDIGITAL	
25	IV02	CK51632R	9DR32DW8-1046	IR BLASTER	SUBDIGITAL	
26	IV03	CK38328R	IC SN74LVC1G125DCKR	SINGLE BUS BUFFER GATE WITH 3-STATE OUTPUTS	SUBDIGITAL	
27	IV04	CK51591R	WM8521H9GED/RV	STEREO DAC WITH INTEGRATED OUTPUT STAGE	SUBDIGITAL	
28	IV05	CK38328R	IC SN74LVC1G125DCKR	SINGLE BUS BUFFER GATE WITH 3-STATE OUTPUTS	SUBDIGITAL	
29	IW01	CK37218R	MONO IC TK11150CSCL	5 V VOLTAGE REGULATOR W ON/OFF SW (FOR POD IF)	SUBDIGITAL	
30	IW02	CK08271R	DIGITAL MONOLITHIC IC (SN74LVC244PW)	OCTAL BUFFER/DRIVER WITH 3-STATE OUTPUTS (FOR POD IF)	SUBDIGITAL	
31	IW03	CK08271R	DIGITAL MONOLITHIC IC (SN74LVC244PW)	OCTAL BUFFER/DRIVER WITH 3-STATE OUTPUTS (FOR POD IF)	SUBDIGITAL	
32	IW04	CK38327R	DIGITAL MONOLITHIC IC (SN74LVC1G86DCKR)	SINGLE 2-INPUT EXCLUSIVE-OR GATE	SUBDIGITAL	
33	IW05	CK51161R	PI5C32X245BEX	16-BIT, 2-PORT BUS SWITCH	SUBDIGITAL	
34	IW06	CK38378R	DIGITAL MONO IC SI-3012KM	1 A, LOW DROPOUT, 5V/3.3 V REGULATOR (FOR POD IF)	SUBDIGITAL	
35	IW07	CK38326R	IC SN74LVC1G32DCKR	SINGLE 2-INPUT POSITIVE-OR GATE	SUBDIGITAL	
36	IW08	CK38917R	DIGITAL MONOLITHIC IC (SN74LVC32APWR)	QUADRUPLE 2-INPUT POSITIVE-OR GATES	SUBDIGITAL	
37	IW09	CK36321R	SN74LVC125APW	QUADRUPLE BUS BUFFER GATE WITH 3-STATE OUT (POD IF)	SUBDIGITAL	
38	IW10	CK08271R	DIGITAL MONOLITHIC IC (SN74LVC244PW)	OCTAL BUFFER/DRIVER WITH 3-STATE OUTPUTS (FOR POD IF)	SUBDIGITAL	
39	IW11	CK08271R	DIGITAL MONOLITHIC IC (SN74LVC244PW)	OCTAL BUFFER/DRIVER WITH 3-STATE OUTPUTS (FOR POD IF)	SUBDIGITAL	
40	IW12	CK08271R	DIGITAL MONOLITHIC IC (SN74LVC244PW)	OCTAL BUFFER/DRIVER WITH 3-STATE OUTPUTS (FOR POD IF)	SUBDIGITAL	
41	IXJ1	CK51331R	TK11100CSCB-G	ADJ POSITIVE LOW DROPOUT REGULATOR IC (ANALOG +9V)	SUBDIGITAL	
42	UT01	HJ00541	ENV56N01D5F	DIGITAL TUNER	SUBDIGITAL	
43	DJ02	CH02673R	LED SM3517F6T (GREEN)	LED	SIGNAL	
44	DJ03	CH02673R	LED SM3517F6T (GREEN)	LED	SIGNAL	
45	I001	CK50991U	M306H3MC-067FP	TV SUB μCON	SIGNAL	
46	I002	CK51111R	BD37A41FVM	VOLTAGE DETECTOR IC W/ WATCHDOG TIMER	SIGNAL	
47	I004	CK37216R	MONO IC TK11133CSCL	3.3 V VOLTAGE REGULATOR WITH ON/OFF SWITCH	SIGNAL	
48	I005	CK50951R	SN74CB3T3125PWR	QUADRUPLE FET BUS SWITCH	SIGNAL	
49	I006	CK51091R	SN74LVC1G3157DCKR	SINGLE-POLE, DOUBLE-THROW ANALOG SW	SIGNAL	
50	I301	CP05163S	IC SI-3090F(LF1111)	LOW DROPOUT VOLTAGE 9.3 V IC REGULATOR	SIGNAL	
51	I302	CK37605R	IC TK11250CM	5 V VOLTAGE REGULATOR W ON/OFF SW	SIGNAL	
52	I401	CK39882U	MM1630CQ	VIDEO SELECTOR IC	SIGNAL	
53	I501	CK39891R	MM1631XJBE	AUDIO SELECTOR IC	SIGNAL	
54	I591	CP05163S	IC SI-3090F(LF1111)	LOW DROPOUT VOLTAGE 9.3 V IC REGULATOR	SIGNAL	
55	IA02	2004752	TA8200AHQ	DUAL AUDIO POWER AMPLIFIER	SIGNAL	
56	IC01	CP08551U	S7805PI	5 V FIXED VOLTAGE REGULATOR	SIGNAL	
57	IS01	CK39652R	DIGITAL MONOLITHIC IC (BR24L32FJ-WE2)	4K x 8 BIT EEPROM	SIGNAL	
58	IS04	CK37216R	MONO IC TK11133CSCL	3.3 V VOLTAGE REGULATOR WITH ON/OFF SWITCH	SIGNAL	
59	IS05	CK37052R	ANALOG MONOLITHIC IC(BD4742G)	RESET IC	SIGNAL	
60	IS06	CK38242U	DIGITAL MONOLITHIC IC (YGT-043-E1)	DCU GATE ARRAY	SIGNAL	
61	IS07	CK52631U	HD64336047A13HV	DCU MICON H8 FAMILY/H8/300H TINY SERIES	SIGNAL	
62	IT01	CK36942R	DIGITAL MONOLITHIC IC (CD0031BM)	DCU D/A	SIGNAL	
63	IT02	CK37061R	ANALOG MONOLITHIC IC(NJM4565)	DUAL OPERATIONAL AMPLIFIER (DCU LPF)	SIGNAL	
64	IT03	CK37061R	ANALOG MONOLITHIC IC(NJM4565)	DUAL OPERATIONAL AMPLIFIER (DCU LPF)	SIGNAL	
65	IT04	CK37061R	ANALOG MONOLITHIC IC(NJM4565)	DUAL OPERATIONAL AMPLIFIER (DCU LPF)	SIGNAL	
66	IT05	CK37061R	ANALOG MONOLITHIC IC(NJM4565)	DCU DUAL OPERATIONAL AMPLIFIER	SIGNAL	
67	IT06	CK37061R	ANALOG MONOLITHIC IC(NJM4565)	DCU DUAL OPERATIONAL AMPLIFIER	SIGNAL	

QUICK REFERENCE PARTS LIST
IC’S & UNITS

No.	Symbol	P#	Description	Function	PWB ASSY	Remarks
68	IT07	CK37061R	ANALOG MONOLITHIC IC(NJM4565)	DCU DUAL OPERATIONAL AMPLIFIER	SIGNAL	
69	IX01	CK38711U	IC TA1360AFG(HIT)	RGB SIGNAL PROCESSOR	SIGNAL	
70	IX02	CP05163S	IC SI-3090F(LF1111)	LOW DROPOUT VOLTAGE 9.3 V IC REGULATOR	SIGNAL	
71	U301	HC00642	ENGE6403DF	ANALOG TUNER	SIGNAL	
72	I901	CP08515F	ANALOG MONOLITHIC IC STR-A6159	POWER IC	POWER	
73	I902	CP08533	STR-6737M(LF1901)	POWER IC	POWER	
74	I903	CP07851	MONO IC TLP421	OPTOCOUPLER	POWER	
75	I904	CP07851	MONO IC TLP421	OPTOCOUPLER	POWER	
76	I905	CP07851	MONO IC TLP421	OPTOCOUPLER	POWER	
77	I906	CP07851	MONO IC TLP421	OPTOCOUPLER	POWER	
78	I941	CP08351R	IC NJM2380L(T1)	SHUNT REGULATOR	POWER	
79	I942	CP08551U	S7805PI	5 V FIXED VOLTAGE REGULATOR	POWER	
80	Q982	CF02962F	TRS.TF561S-A-LF610	THYRISTOR	POWER	
81	T901	BT02272	SWITCHING TRANSFORMER EI16F05J	SWITCHING TRANSFORMER	POWER	
82	T902	BT02321	PT-EE3542F11U-DP5X-SIG	SWITCHING TRANSFORMER	POWER	
83	I601	CP06891	IC TDA8174A	VERTICAL DEFLECTION CIRCUIT	DEFLECTION	
84	I701	2362606	IC NJM4558D	DUAL OPERATIONAL AMPLIFIER (SIDE PIN)	DEFLECTION	
85	IH01	CP07091	IC M62501P	HV CONTROLLER	DEFLECTION	
86	IK02	CP05011R	IC PST994D-T	CONV AMP MUTE CONTROL	DEFLECTION	
87	IK40	CZ01251	STK394-710	CONV AMP	DEFLECTION	
88	IK41	CZ01251	STK394-710	CONV AMP	DEFLECTION	
89	IP01	CZ01082	IC STR-F6628(LF1359))	POWER IC	DEFLECTION	
90	IP02	CP07851	MONO IC TLP421	OPTOCOUPLER	DEFLECTION	
91	IP40	2381343	IC (SE115N)	ERROR AMPLIFIER IC	DEFLECTION	
92	IP41	CP05163S	IC SI-3090F(LF1111)	LOW DROPOUT VOLTAGE 9.3 V IC REGULATOR	DEFLECTION	
93	Q603	CF02981R	2SC5343YT_PF	VERTICAL SIZE SW	DEFLECTION	
94	Q604	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW	VERTICAL PROTECTION	DEFLECTION	
95	Q701	2328102	TRS.FN-521	SIDE PIN OUTPUT	DEFLECTION	
96	Q703	2324321M	TRANSISTOR 2SC2610-05	SIDE PIN PRE DRIVE	DEFLECTION	
97	Q706	CF02981R	2SC5343YT_PF	H BLK	DEFLECTION	
98	Q709	2326216	TRS. 2SC3116 (S/T)	HORIZONTAL DRIVE TRANSISTOR	DEFLECTION	
99	Q710	CF02981R	2SC5343YT_PF	HORIZONTAL SIZE SW	DEFLECTION	
100	Q777	CF03031F	TRS. 2SC6012000LT	HORIZONTAL OUTPUT	DEFLECTION	
101	QF01	CF00821F	TRS. 2SC4686A 1200V	DF VERTICAL OUTPUT	DEFLECTION	
102	QH01	CF01583F	TRS. 2SK2771-01R-F168R	HV OUTPUT	DEFLECTION	
103	QH02	CF02781R	TRS. KTC200YAT	HV PRE DRIVE	DEFLECTION	
104	QH03	2326811R	TRANSISTOR 2SC3468 (E/F)	ABL SW	DEFLECTION	
105	QH04	CF02781R	TRS. KTC200YAT	PROTECTION OF HV OUTPUT	DEFLECTION	
106	QH05	2326811R	TRANSISTOR 2SC3468 (E/F)	ABL SW	DEFLECTION	
107	QP40	2312172F	TRS. 2SD2375-P/Q(LT)	HEATER REGULATOR	DEFLECTION	
108	T701	BT01232	HORIZONTAL OUTPUT TRANSFORMER	HORIZONTAL OUTPUT TRANSFORMER	DEFLECTION	
109	T702	BZ03061	DRIVE TRANS.-DJ81	HORIZONTAL DRIVE	DEFLECTION	
110	TF01	BT02141	EE22 DYNAMIC FOCUS TRANSFORMER	DYNAMIC FOCUS TRANSFORMER	DEFLECTION	
111	TH01	BW03171	FBT HFL1535AP-RC	FBT	DEFLECTION	
112	TP01	BT02291	PT-EE4242F20U-DP5X DEF	SWITCHING TRANSFORMER	DEFLECTION	
113	HM01	CZ01171	GP1UM281RK0F	IR RECEIVER	CONTROL	
114	Q801	2327471F	TRS.2SC3950 (HIT D/E)	RED VIDEO OUT	CPT	
115	Q803	2312372F	TRS-2SC3942	RED VIDEO OUT	CPT	
116	Q804	2312773F	TRS-2SA1546(2)M/L	RED VIDEO OUT	CPT	
117	Q805	2312372F	TRS-2SC3942	RED VIDEO OUT	CPT	
118	Q851	2327471F	TRS.2SC3950 (HIT D/E)	GREEN VIDEO OUT	CPT	
119	Q853	2312372F	TRS-2SC3942	GREEN VIDEO OUT	CPT	
120	Q854	2312773F	TRS-2SA1546(2)M/L	GREEN VIDEO OUT	CPT	
121	Q855	2312372F	TRS-2SC3942	GREEN VIDEO OUT	CPT	
122	Q8A1	2327471F	TRS.2SC3950 (HIT D/E)	BLUE VIDEO OUT	CPT	
123	Q8A3	2312372F	TRS-2SC3942	BLUE VIDEO OUT	CPT	
124	Q8A4	2312773F	TRS-2SA1546(2)M/L	BLUE VIDEO OUT	CPT	
125	Q8A5	2312372F	TRS-2SC3942	BLUE VIDEO OUT	CPT	
126	QE06	2315381	TRS. 2SA1837	RED VM OUT	CPT	
127	QE07	2315391	TRS. 2SC4793	RED VM OUT	CPT	
128	QE56	2315381	TRS. 2SA1837	GREEN VM OUT	CPT	
129	QE57	2315391	TRS. 2SC4793	GREEN VM OUT	CPT	
130	QEA6	2315381	TRS. 2SA1837	BLUE VM OUT	CPT	
131	QEA7	2315391	TRS. 2SC4793	BLUE VM OUT	CPT	
132	EANT	HP00774	ANTENNA SWITCH BOX YAA41-0188N	ANTENNA SWITCH BOX	FINAL ASSY	
133	NFAN	GS01092	D06R-05SS6	COOLING FAN	DIGITAL MODULE	

HITACHI